



THE OFFICIAL ORGAN OF THE B. B. C.

Vol. 6. No. 72.

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EVERY FRIDAY.

Two Pence.

OFFICIAL PROGRAMMES OF THE BRITISH BROADCASTING COMPANY.

For the week commencing
SUNDAY, February 8th.

MAIN STATIONS.

LONDON, CARDIFF, ABERDEEN, GLAS-
GOW, BIRMINGHAM, MANCHESTER,
BOURNEMOUTH, NEWCASTLE,
BELFAST

HIGH-POWER STATION. (Chelmsford.)

RELAY STATIONS.

SHEFFIELD, PLYMOUTH, EDINBURGH,
LIVERPOOL, LEEDS — BRADFORD,
HULL, NOTTINGHAM, STOKE-ON-
TRENT, DUNDEE, SWANSEA

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AN OFFICIAL ANNOUNCEMENT.

COUNSELS of caution are rarely lacking when a public organization adopts a definite constructive policy on matters commonly associated with controversy. We decided at the beginning to give religion a permanent place in our programmes. There were those who resented this attitude on the ground that our legitimate function was entertainment and that religious teaching was certainly not a form of entertainment. There were those who foretold serious trouble in striking an even balance between the various accepted forms of religion. There were others again who saw in our decision the death-blow to the already declining habit of church attendance.

Two years of experience would seem to prove that our policy is right, and that the fears of early critics were unfounded. There was an advantage perhaps in the fact that our conception of the religion of broadcasting was more the product of the lay mind than that of the ecclesiastic or theologian. We began from the simple premise that to the average man and woman religion satisfies an important need. We were not content with ethics or universalism. To influence conduct, and raise the standard of citizenship, the religion of broadcasting had to be definite and concrete. It had to embody a robust and generous faith. Our aim was to communicate "a thorough-going, optimistic, and manly religion." It does not present the Almighty in the guise of what has been described as a lawyer's God policing His universe, but as a companion-

able and sympathetic spirit. It is not presented as an added accomplishment, but as an integral part of life, born of need."

Given these basic ideas, we are not concerned with doctrine. Normally there are no transmissions during church hours. This rule is rarely broken, and then only when a complete religious service is being broadcast. There are two hours of specially chosen music on Sunday afternoons. Then in the evening at 8 or 8.30 a short religious service is sent out from all studios. Familiar hymns or metrical psalms are sung. Usually there is an anthem, and a fifteen minutes' address.

Each station has the benefit of the advice of a Committee of clergymen representative of all the larger denominations. It is worthy of note that the Roman Catholics are represented on most of these Committees. About once a month a complete church service is taken instead of the ordinary studio service. To convey atmosphere, nothing is missed, from the ringing of the bells to the Benediction. The monthly broadcast services are usually held after the ordinary evening service, and are specially framed in consultation with us.

Our correspondence leaves no room for doubt that the distinctive character of Sunday programmes is widely appreciated and welcomed. The exclusion of doctrinal controversy has silenced theological criticism. There are still some who think we

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Which is the Most Popular Song?

A Problem for Music Lovers. By A. B. Cooper.

TO the question "Which is the most popular song?" there would be many different replies, and perhaps most people would declare it was impossible to say; yet that very difficulty makes the discussion of this question all the more interesting. Of all the songs that the people sing, which is best beloved, oftenest heard, most widely known?

We must confine ourselves, naturally, to songs sung by the English-speaking peoples, written, as to their words, in the English tongue, and this restriction just as naturally brings to the fore the various national anthems and patriotic songs which are, undoubtedly, very widely sung, and, in some cases, fervently loved.

More Honoured Than Loved.

I suppose "God Save the King" is as well known as to its first verse and its tune as anything of its kind in existence, and is played and sung as often as any other piece of music in existence. For that very reason one does not exactly love it, even if one can be said rather to respect and honour it. Its universal use does not mean an equal popularity and affection for the song itself, apart from its official associations.

As for the Scot, although his patriotism is not to be doubted for a moment, no one supposes that he would rather sing either "God Save the King" or "Rule, Britannia!" than "The Campbells Are Coming," or "Scots Wha Hae," or "Bonnie Dundee," or "The Cock of the North." Even if he wished to express his highest patriotic fervour, however, he might not choose any of these, but would more probably turn his thoughts and his voice to "The Blue Bells of Scotland" or "The Land o' the Lea."

Reaching the Nation's Heart.

And why? Because it may be confidently laid down that no song which simply and solely voices the spirit of patriotism, of pride of race, or appeals only to the fighting instinct, will ever take first place among a country's song treasures. It is the song which reaches the heart, the song of sentiment, which gets the suffrages of the people. And by this I do not mean a sentimental song—a song which rhymes "kisses" and "blisses," and "love" and "dove."

Why are "Killarney," "The Harp That Once," and "Kathleen Mavourneen" more truly national songs than "The Wearing of the Green" or "God Save Ireland"? The answer is obvious. These songs belong to the race-genius of a great people, and touch a much deeper well of sentiment. In other words, they reach the nation's heart.

Filling a Temporary Niche.

Of late years, many songs have been written which have filled a niche in the national life, and especially during the war, have made a place for themselves in our national annals, yet they have not really survived. Such a song is "Tippitury." I doubt very much if this song will be found a hundred years hence side by side, say, with "Tom Bowling," or "The British Grenadiers," or "John Peel." Other similar songs were "Smile!" and "Home Fires," and "The Long Trail." These will always remind us of the war; but it seems even now impossible that they can take their assured place among the great songs of our land.

Such a song as "Land of Hope and Glory" is, naturally, in quite a different category. It has come to stay. As long as Britons sing,

they will sing "Land of Hope and Glory." But it will never be sung very familiarly. It has all the elements of immortality, but not of wide popularity.

It would appear to require a special blend and blend of qualities to constitute a song which has in it immortality and popularity combined. There are songs which are immortal which have never been widely popular, such as "Drink to Me Only with Thine Eyes" and "Go Where Glory Waits There," and many of the great songs of Shakespeare, but there are others, which inherently have not half their worth, which will not only live for ever, but be loved always.

A Touch of Tragedy.

But there are songs which both as literature and in their musical setting seem to achieve a double claim to immortality and popularity. In Scotland Burns achieved this double victory with "Ye Banks and Braes"; "Milk" Lewis achieved the feat with "On the Banks of Allan Water," and it will be noted instantly that these two songs, one by the greatest of Scotsmen, the other by a rather commonplace Englishman, achieve their end by very similar means. There is in both songs a touch of tragedy, a wistfulness of sentiment, a reminder of the ever-recurring sadnesses of life. That is why Shelley said a profound and deeply authentic thing when he told us that "our sweetest songs are those that tell of saddest thought."

Akin to Tears.

Take "Home, Sweet Home," for instance. Who will deny that it is a sad song? Although it sets out to be cheerful, it ends with a sob, and it is always akin to tears. Even "Annie Laurie" seems to have in it "tears from the depth of some divine despair." It seems to contain the seeds of parting even in meeting.

The same can be said of "Auld Lang Syne." It is a song of memories. The misty years have rolled on and around these "dear dead days," and we look back upon them with a poignancy of recollection which, although it has much in it of joy, has a large element of pain.

A Choice of Three.

And those considerations seem to me to bring our argument to a point. I am strongly of opinion that the chief of the most popular, in the sense of the best loved, the most widely used, the most generally appreciated, the most deeply touching of all British songs, must be made from three: "Home, Sweet Home," the song of love and longing; "Annie Laurie," the song of love and sacrifice; and "Auld Lang Syne," the song of love and friendship, of memory and comradeship.

Personally, I vote for the last named. It is the song which looks into the eyes of the present and sees the reflection of the past. It is a song which is cheery and yet is regretful. It is a song which is hopeful and yet wistful. It is, moreover, a song in the singing of which the whole Empire, aye, and the great English-speaking nation which was once an English colony, a nation which is proud to know that its laws are laid on the firm foundation of English precedent, join hands in spirit, and plight a troth of eternal comradeship.

[We shall be glad to hear from readers which song they consider to be the most popular. Their opinions should prove both interesting and illuminating.—Ed.]

The Religion That is Broadcast.

Continued from the previous page.

keep people away from church. But what evidence there is points to an opposite conclusion. There is also good reason to believe that our services stimulate religious thought.

When the Rev. H. R. L. Sheppard, of St. Martin-in-the-Fields, asked listeners to meet him in the Albert Hall on a certain date, that great building was filled to overflowing. Moreover, broadcasting has brought the message of religion to many thousands of men and women who, otherwise, might never have felt its enriching and purifying influence.

Most of the various church authorities have been quick to realize the value of the new medium. Bishops of the Church of England, Roman Catholics, Nonconformists, and the Chief Rabbi have all spoken from the London Studio during the past year. The broadcasting of such great religious meetings as those of Gipsy Smith at the Albert Hall has increased the audience from thousands to millions, and has not diminished the number of those attending the services. For the bed-ridden—the aged and the sick—the broadcast services have been an inestimable boon.

Nearly all the religious journals are enthusiastic supporters of our Sunday programmes. *The Church of England Newspaper* devotes the front page of a recent issue to an appreciative review of Mr. Reith's book. After declaring that "the Churches possess a priceless asset in the goodwill and co-operation of the B.B.C.," the Editor remarks that "it is absurd to suggest that churchgoers will surrender their habits of attendance for what is obviously a poor substitute." But he wants more. He suggests the formation of a society, and the establishment of a special fund to improve our Sunday programmes, particularly on the musical side. While we are unable to adopt the suggestion of a society and a fund, we are none the less grateful for such splendid encouragement.

Unfortunately, there are still some church organizations that will have nothing to do with broadcasting. St. Paul's Cathedral is the outstanding case. Although some months ago we suffered a summary rebuff from St. Paul's we did not allow this to stand in the way of our helping the campaign for funds to save the Dome. We are glad to hear from *The Times* that the wireless appeal for St. Paul's has proved remarkably fruitful. Many listeners quite naturally expected that we would at least broadcast the bells of St. Paul's in connection with the campaign. Millions would have been glad to hear some of the special music of the Cathedral Service on St. Paul's Day.

Proposals of this kind, sponsored by *The Times*, which has made the St. Paul's Fund its special charge, were met by the same unyielding opposition. However much we deplore such an attitude, we have not allowed feelings of pique or resentment to interfere with the progress of our effort to help in the saving of a great national heritage. But it is well that listeners should know that we are not responsible for the absence from the programmes of anything from St. Paul's Cathedral.

Following the publication of the new "Dictionary of Modern Music and Musicians," Messrs. Dent will publish a new series of books dealing with International Music, under the editorship of Dr. A. Engelfeld-Hull. It is hoped to have four books ready this spring: "Robert Schumann," by Professor Niels; "Monteverdi," by Dr. Henry Prunières; "Arnold Schönberg," by Egon Wellesz; and "Problems of Modern Music," by Professor Adolf Weissmann.

Official News and Views. GOSSIP ABOUT BROADCASTING.

Lord Birkenhead to Broadcast.

BIRMINGHAM listeners will be interested to hear that a speech by the Earl of Birkenhead is to be broadcast on February 20th. Lord Birkenhead will be the chief guest at a banquet of the Birmingham Chamber of Commerce at the Grand Hotel, Birmingham. The gathering is of a non-political character and Lord Birkenhead will respond to the toast of His Majesty's Ministers.

An Edward German Programme.

The Cardiff Station has been fortunate in securing the co-operation of Mr. Edward German for a programme devoted to this popular composer's works on Wednesday, February 18th. Edward German's music is as popular with the public as it is with singers and musicians; his ideas are original, light and graceful, and his skill in orchestration is remarkable. The entire programme has been arranged for broadcasting by the composer himself, and with the inclusion of two popular vocalists, Mr. Herbert Heyner and Miss Nora Delmarc, an interesting evening is assured.

Pantomime By Radio.

The Manchester Station is producing a pantomime, *Cinderella*, on Saturday, February 21st, under the auspices of Mr. Victor Smythe, assisted by members of the "2ZY" Dramatic Company, and others.

"Old Joe and Company."

"Stump" speeches and plantation melodies to the strumming of the banjo irresistibly bring to mind the old days of the "nigger" minstrels. This is the object of a novel interlude in the Cardiff Station programme for Friday, February 20th, when "Old Joe and Company" (including the Ducktown Coon Band), will revive the atmosphere of the Swance River and the old minstrels.

On the same evening the Cardiff programme, aptly entitled "The Charm of Variety," will include a repeat performance of *A Nasty Night in Nubia*, the play which formed a part of "AWA'S" "Nubian Programme" on New Year's Eve.

A Famous String Quartet.

The Chamber Music programme arranged at the London Station for Thursday, February 19th, is of more than usual interest. It includes the Katcher String Quartet, which made such a brilliant entrée into broadcasting programmes some months ago. Miss Ethel Bartlett, a pianist familiar in wireless programmes, will assist them, and the vocalist, Mr. Brabazon Lowther, is an artist of individuality who has done much recital work in England and on the Continent.

A pianoforte Quintet in B Minor by Robert Schumann, who is known as a composer as well as a fine singer, will be performed. This is the second public performance of the work, which was written before the War. It is a short work in one movement, full of beautiful melody, and to music-lovers it will come as a welcome indication of the conservatism and love of beautiful sounds which exist still in some young composers' minds. Mr. Brabazon Lowther's songs will be in English, French and Italian, while two favourite arias from operas by Handel will form a second group.

Success in Important Works.

The Katcher Quartet was formed in 1923, and after a year's work in private, gave a recital at the Solian Hall, which met with great success. Critics were unanimous in their praise of their playing of such big works as the Delius Quartet. Mr. Samuel Katcher, the leader, was a pupil of Albert Sammons.

Broadcasting by Concert-Goers.

The Manchester Station is organizing a concert in aid of the Lord Mayor of Manchester's Unemployment Fund. This will be relayed from the Free Trade Hall on Friday, February 20th. The programme has been arranged to suit all tastes. Those who enjoy singing will have the opportunity of hearing Miss Mavis Bennett. Those who like to sing themselves can take part in "John Brown's Body," and other popular songs of the kind. Mr. Albert Sammons will also be there, and humorous interludes will be provided by John Henry. These artists will be supported by the "2ZY" Augmented Orchestra, conducted by Mr. T. R. Morrison.

Lessons on Morse Signalling.

Mr. Harvey, Engineer-in-Charge of the Leeds-Bradford Relay Station, will give lessons on Morse signalling on Mondays, Wednesdays and Fridays, beginning on February 16th, immediately after the Children's Hour at 6.15.

Later Broadcasting.

During the period covered by this issue the following Stations will be broadcasting until 11 p.m.:

Glasgow, February 6th; Aberdeen, February 6th; Birmingham, February 13th.

A Treat for Organ Lovers.

The Liverpool Station will broadcast one of the most notable and popular features of Liverpool musical life on Saturday, February 14th, when the famous Saturday afternoon Organ Recital, given by the City Organist, Mr. Herbert E. Ellingford, at St. George's Hall, will be relayed. The St. George's Hall Saturday Organ Recitals celebrate their seventieth anniversary this year, and the broadcasting of the Recitals by the Liverpool City Organist is an event which will be eagerly awaited by Liverpool listeners.

The St. George's Hall organ, built by Henry Willis, to a large extent under the guidance of S. R. Wesley, the legendary doyen of organists, is considered one of the finest in the world.

An Old-Time Evening Party.

The Belfast Radio Players will present *An Hour in a Mid-Victorian Drawing-Room* on Monday, February 16th. Listeners will overhear, as it were, an evening party of fifty years ago; the conversation of those present, a song or two of the period, a recitation, and, in the manner of the day, a piano duet.

In contrast to this hour in the 'Eighties, the Belfast Station Orchestra will conclude the evening with a programme of English Orchestral works by such modern composers as Quilter, Hutterworth and Hamilton Barty.

Welsh Programmes.

The new series of Welsh programmes at the Cardiff Station has aroused much enthusiasm amongst the Welsh-speaking people in the Principality and, accordingly, arrangements have been made to continue the series indefinitely. To-night, Friday, February 6th, Miss Delys Jones-Thomas will sing Welsh folk songs, and Mr. Tom E. Ellis will sing songs by modern Welsh composers. Mr. J. Lloyd Morgan and Mr. W. J. Griffiths, both of the University College, Cardiff, will deal with Welsh musicians of the nineteenth century and Welsh literature respectively, and Welsh recitations will be contributed by Mr. Dan Matthews, of Pontardun-lela.

Plays from Plymouth.

The Plymouth Station will present a programme of short plays produced by Mr. William Macready, the Dramatic Producer of the Bir-

mingham Station, on Friday, February 20th. The programme will include a comedy, *Delicate Ground*, a dramatic episode, *A Daughter's Choice*, and a farce in one act, *The Irish Doctor*.

"Britain's Task in India."

Listeners to the Nottingham Station will have the opportunity of hearing a famous British explorer talk on Friday, February 20th, when Sir Francis Younghusband will explain some of the problems of Britain's Task in India.

Purcell's "King Arthur."

Mr. A. Collingwood, F.R.C.O., will conduct the "2RD" Operatic Choir when it performs Purcell's *King Arthur* at the Aberdeen Station to-night, February 6th.

Fishing Village Romance.

Something of the romance of the fishing village will be broadcast from the Leeds-Bradford Station, on February 20th, in *The Maid o' the Inn*. This is a comedy with music, written and arranged by Mr. Cecil Moon, the pianist and director of the Harrogate Royal Baths Quartet.

"High and Low-Brow."

Belfast Station will broadcast a programme comprehensively entitled "High and Low-Brow," on Thursday, February 19th. For the "high-brows" there will be John Ireland's Sonata in D Minor for violin and piano, played by Miss Winifred Small and Mr. Maurice Cole; for the "low-brows" the Station Orchestra will play musical comedy selections, and the Burgerweinen Waltz, of Strauss.

Spanish Scenes from Glasgow.

A programme of "Spanish Scenes," introduced by Mr. José Clarnao in a talk on "Old Spain," will be broadcast from Glasgow Station on Thursday, February 19th. The music, which includes cello solos by Miss Beatrice Evelyn, and songs by Mr. Roy Henderson (baritone), is almost entirely by Spanish composers. The remainder is based on Spanish themes and folk songs.

Russian Music at Bournemouth.

A Russian Symphony concert will be given from the Bournemouth Studio on Sunday, February 15th, at 3 o'clock. The Augmented Wireless Orchestra will be heard in Tchaikovsky's Fifth Symphony and the Overture "1812." Miss Winifred Small will play the Tchaikovsky Violin Concerto with Orchestra, and a short recital of Russian works.

The vocalist will be Mr. Adolf Rabin, the Russian tenor.

A Dickens Recital.

A Dickens Recital from "Oliver Twist" will be given from the Plymouth Station to-night, February 6th, followed later by a specially written one-act farce entitled *A Strange Proposal*. Popular vocal and instrumental music will be included in the programme, and a talk on "Through Jungle and Forest to the Heart of Africa," by Mr. J. H. Thomas, M.C., Ex-Administrator to the French Government in the Congo.

Talks on Engineering.

Mr. A. S. Ackermann, B.Sc. (Engineering), is giving a series of S.B. talks on "Popular Fallacies in Engineering." He is a Consulting Engineer and author of "Popular Fallacies." Though most of those to be dealt with in this series of talks are connected with engineering, Mr. Ackermann hopes to deal with them in a manner which will be of interest to those who are not engineers. These talks are S.B. to all stations.

Wireless and Wild Weather.

Why Broadcasting Cannot be Blamed.

"WE cannot hope for any decent weather so long as this wireless goes on." This remark uttered, as a rule, with a sad little shake of the head, is one that is frequently heard nowadays from people of all kinds. There is, in fact, a firm conviction in the minds of thousands that wireless is responsible directly for all the vagaries of our climate.

If you press for further information on the point, asking how wireless can do these things, you are generally told that, up to a couple of years ago, things were quite normal, whilst now they are "all anyhow." Your informant goes on to explain that both the atmosphere and the ether receive such a shaking up every night whilst broadcasting is in progress that practically anything may be expected to happen.

A Drop in the Ocean.

Now, let us see whether there can be any truth at all in the belief that wireless is to be blamed for the curious ups and downs that we experience. To the man in the street, wireless and broadcasting are synonymous terms; one to him means precisely the same thing as the other. For this reason he regards wireless as having started on a large scale when the B.B.C. stations were erected. Actually, of course, broadcasting is a mere drop in the ocean when compared with commercial wireless, and many of the world's most powerful stations were in active and constant operation many years before broadcasting in this or in any other country was ever thought of.

And, further than this, long-distance stations had to use very great power in the early days of wireless, since neither the transmitter nor the receiver had reached its present state of perfection.

Very Little Change.

If wireless really was to blame, not only our weather, but the whole world's weather, would have been badly upset for many years prior to the advent of broadcasting. On looking at records, do we find that this is so? The answer is that we do not. The temperatures in all four seasons have been just about what they always are, taking them as a whole; the rainfall has not been excessive, nor have we been unduly visited by droughts.

And now about these broadcasting stations. The nine main stations in this country, which operate on the shorter wave-lengths, are each rated at $1\frac{1}{2}$ kilowatts. The nine of them together thus have a power of $13\frac{1}{2}$ kilowatts, which is equivalent to 18 horse-power. If we add Chelmsford's 16 kilowatts and the output of the combined relay stations, we get a total for broadcasting in this country of a little over 40 horse-power, which, when you come to think of it, is not a very large amount. It represents, roughly, the same amount of energy as is required to propel a dozen small motor bicycles or one large car. It hardly seems that this trifling power can have much to do with weather conditions!

Wireless Always Existed.

But actually wireless did not begin two years ago, nor yet ten nor twenty years ago; it has been going on incessantly since the beginning of the world, though until recently we have known nothing of it because we had no apparatus to detect its presence. You cannot make an electric spark, however small, without sending wireless waves out into the ether. Nature is constantly making sparks of a size which dwarf all our human efforts. These sparks occur during thunderstorms, when lightning flashes from cloud to cloud, from cloud to earth, or from earth to cloud.

It has been calculated recently that the energy

of a single big lightning flash, if it could be collected and harnessed, would be sufficient to supply all the electricity required by London and the Home Counties for eight minutes, and that the energy flung out during a thunderstorm lasting for two hours would be sufficient to provide the whole of the lighting and power required by the British Isles for ten days.

Test This Yourself.

It is safe to say that at any moment there is a thunderstorm raging in some part of the globe, any single flash of which causes more disturbance of the ether than the united efforts of all the wireless stations, broadcasting, commercial, naval, military, and private, in the entire world.

Wireless really plays a very small part in the electrical disturbances of the ether and of the atmosphere that are continually going on; and if wireless is a mere trifle by the side of lightning, the energy put out by broadcasting stations is as nothing by the side of that dissipated by other wireless stations. You can easily verify this with the help of your own receiving set. If it is a sensitive one, you may be able to tune in ten or a dozen British and Continental broadcasting stations. Leave the broadcast band for a moment and tune to 500 metres. There you will hear not one or two transmissions, but a perfect babel of sound from the ships and the shore stations with which they are communicating.

If you can get up to the high wave-lengths, you will find a still more striking illustration of the immense volume of commercial traffic. On 12,000 metres and upwards, even a small set will bring in scores upon scores of transmissions; in fact, unless your receiver is very selective, you will find that you are compelled to listen to half a dozen or so at once. And remember that, whereas broadcasting stations work for just a few hours out of the twenty-four, the big commercial stations are in operation almost without ceasing day in and day out.

Trees as Aerials.

A point made to me by a friend a day or two ago, whilst this question of wireless and the weather was under discussion, was that I was not quite fair in maintaining that there was really very little more wireless now than there was three or four years ago. He said: "There may not have been much more power sent out, but it was being received at only a few points. To-day, there is hardly a garden in which you do not see an aerial mast, and this, somehow, seems as if it ought to make a difference."

This is a new way of looking at the matter, but there have been aerials all over the country for a good deal more than half a century, picking up wireless transmissions when there was any wireless, and atmospherics long before that. What aerials? you ask. Why, the telegraph and telephone wires which run everywhere over the land. The same thing is true of trees, especially in the summer, when they are filled with sap and covered with juicy leaves.

19,000 Miles of Wire.

Really, our aerials do not amount to anything very much in comparison with the telegraph wires alone. If we take it that there are a million aerials in use in this country, and that each of them is of the full regulation length—actually, of course, this is not so—we find that the total amount of wire used in them is between 18,000 and 19,000 miles, which is simply nothing compared with that suspended between the insulators of our telegraph-posts. No, I do not think that we can justly blame wireless when weather conditions are not quite to our liking.

R. DE FOYNTON.

Do You Broadcast?

Rules for the Amateur Transmitter.

IN most of the districts served by the British Broadcasting Company's stations one or more experimental transmitting stations are to be found, and it is to this source that many complaints of interference have been attributed. Unfortunately, the average opinion of the broadcast listener (or the B.C.L., as he is termed in amateur circles) is that the experimenter has little respect or sympathy for the crystal receiver in the next house.

Forbidden Hours.

The amateur transmitting station is usually licensed to employ a power of 10 watts (this amount of current is about equivalent to power consumed by a pair of motor-car side lamps) and is licensed to use a fixed wave length of 440 metres and a range of wave lengths below 200 metres. Under the conditions laid down in the permit issued by the Postmaster-General (after an examination of the qualifications of the experimenter), the successful applicant may conduct his experiments in radio telegraphy or telephony—subject to the following restrictions:

The fixed wave length of 440 metres may not be used during the hours in which programmes from B.B.C. stations are taking place.

The experimenter is fully entitled to use this wave length after the B.B.C. programmes have concluded, irrespective of any Continental broadcasting which may be in progress.

More Freedom.

In the lower band of wave lengths, the experimenter has more freedom, for he may employ either telegraphy or telephony at any time during the day or night, providing that he has first ascertained whether his transmission is likely to cause interference to other stations, and that his transmitter is accurately tuned.

Should he receive information from a Government or commercial station that his transmission is causing interference to their particular service, he must cease transmission until again notified that he may carry on.

This, however, does not apply to broadcast receiving stations which cannot compel an amateur to cease working should they suspect the amateur of causing interference.

Very few experimenters now use the 440 metre wave length, as the only free period is during the few hours on Sundays before the broadcasting stations come into operation.

The amateur transmitter is not permitted to use "spark" and many complaints have been made of more interference from a powerful amateur station using "spark." In most cases the cause has been traced to shipping and coastal stations.

In Congested Areas.

The B.B.C. wave band at present does not extend below 300 metres and, therefore, a clear 100 metres separates the amateur from the B.C.L. (only one foreign broadcasting station uses 265), and it would appear that no possible interference could occur. In congested areas where several aerials almost touch, and in many cases run parallel, shock excitation is, unfortunately, noticed when the transmitting station is using telephony.

Very few amateurs use telephony (even on shorter wave lengths than 100 metres) during broadcasting, but to avoid any possible chance of overhearing such transmissions, the broadcast receiver should endeavour to protect himself to the full extent by using a loose coupled aerial circuit—the cost of such an arrangement is not excessive and the advantages are many.

J. A. P.

Listeners' Letters.

[All letters to the Editor to be acknowledged must bear the name and address of the writer. Anonymous contributions are not considered.]

From a Youthful Listener.

DEAR SIR, — We have heard that some people do not approve of the wireless lessons for schools, but I should think the people who say these things do not listen to the talks, or else they would change their opinion. Our school just loves the wireless and we think it a great treat to be able to listen. Last year, our teacher had only the headphones and only five could listen at once, so the girls went in for your course in poetry, and the boys to the talks on "Wild Birds." But this term our teacher has got a loud-speaker and fifteen of us can listen at once.

We were very sorry and disappointed that we could not go in for the exam.; but owing to the illness of our teacher we were unable to listen to all the lessons. We hope that the B.B.C. will not take any notice of those letters which the people wrote and keep up heart, for we love the talks and think they are grand.

Yours, etc.,

Braybrooke. (Miss) C. C. (age 14).

"Asking for More."

DEAR SIR, — After 40 years as a Public School Science Master, I have settled in a wee cot by the side of a whispering wood and a babbling burn, so far remote from men that the only visitor from week to week is the post-girl, yet for the last year and a half, or more, the B.B.C. has made it almost the centre of the universe, certainly of the world.

I write to plead for a certain continuity, if such be possible, in a certain section of your activities. Would it not be possible, when you "S.B." in the first of a series of talks to arrange that we shall get the rest of that series? Recently, we received Oliver Lodge and a British Drama League Recital, and we should dearly like to have the sequels to these; but we know from experience (e.g. the Bragg series) that our local station will soon chip in and say, in effect: "All this is too high-brow for dwellers in tents: we will send you our Mr. Davy McJones 'On the rise of the Mermanlike Marmos,' or put up a callow youth who has got a copy of the 'Encyclopaedia Britannica,' has read up an article, and is burning to let you know of his discovery." And then they switch off Bragg and we suffer gladly (I).

It is exasperating when we are given a taste of good things and then are left gaping for more; still more so when our *Radio Times* writes our epitaph with "S.B. to all Stations except —" and up comes Davy McJones to fill the gap. This is not a "grouse" — just Oliver asking for more "Oliver" and other things after the first taste of them.

Yours, etc.,

Sterlingshire. A. S. R., M.A., F.O.S.

"At the Piano."

DEAR SIR, — Your contributor "R. P." in his article, "At the Piano," writes: "How often does a listener listen to the accompaniment when a vocalist is singing?" I, for one, listen more to the accompaniment than to the singer. However good the vocalist is, if the pianist is feeble and weak, I immediately shut off till the item is finished.

One artist was the best pianist I had ever heard, because he accompanied, I believe, his own songs, and the piano on that occasion was predominant.

Yours, etc.,

Ipswich. A. F. C.

(Continued in column 1, page 295.)

"Round the World in Music."

The Romance of National Folk Songs.

A PARTICULARLY interesting programme will be broadcast from London and Chelmsford on Monday, February 9th. With the attractive title of "Round the World in Music," it will contain examples of the music of many countries, including folk songs from Holland, Sweden, Denmark, Italy, China, Malaya, etc.

There are, probably, no songs in the world that are so interesting as folk songs. Composed, as they were, by the people and for the people, and handed down orally through numerous generations, they show, perhaps, more than any history book the tastes, ideas and emotions of the various nations.

Scottish Bards of Old.

As to the authors of these songs, no one can name them and they will probably remain for ever anonymous. There is no doubt that originally most folk songs were intended to be accompanied by a dance, for dancing is one of the earliest known forms of expressing human emotions, indeed, the very word "ballad" which so aptly describes this type of song is derived from the French *baller*, meaning to dance.

The folk songs of England make a wonderful collection, and there are, no doubt, still many that have escaped the attention of the folklorist and the collector.

It is, perhaps, only natural that the plots and ideas of many of these songs should have been taken from Celtic and Saxon sources, and some may even owe their origin to the Greek and Slavonic peoples.

Favourite Plots.

Scotland, too, is rich in folk songs. The courts of the old Scottish Kings had their bards whose duty it was to compose ballads, and the strolling minstrel was a regular feature of old Scottish life.

There are few races, however savage, without their folk songs, and it is a remarkable fact that many of these songs tell the same stories, even though thousands of miles separated their authors.

Thus, in many folk songs we find the story of the girl who pretends to be dead in order that she may be carried into the presence of her lover. This incident is sung in countries as far apart as Scotland, Germany and Provence. A variant of it is about the beautiful young bride who shuns death to escape being married to a man she does not love.

Another favourite theme is that of the cruel stepmother. Ill-treating the helpless children of her husband, she is one day confronted with the ghost of their mother, which so frightens her that from that time onwards she amends her evil ways.

Haunting and Plaintive.

Many of the folk songs, too, are in praise of gold, silver and various precious stones. Such songs are to be found in France, Finland, Turkey and other countries, and are supposed in some cases to have had their origin in the East, where the love of jewels and gold and silver finery is proverbial. It seems more likely, however, that the poverty of their authors impelled them to sing about wealth beyond their wildest dreams.

It is a noteworthy fact that animals endowed with human speech and attributes are to be found in all kinds of ancient literatures, and another popular folk song theme is the bird that talks. This phenomenon occurs in the songs of many countries, including France, Serbia, and Africa.

The music of the less-cultured nations sounds horrible to most Western ears; but there is something haunting and plaintive about many

of the folk songs of these nations, and the words often show a wonderful depth of feeling. For instance, the Malays have a great knack of extemporizing plaintive songs about events in their daily lives. Many of these are soon forgotten, but others are carefully remembered, and are sung on important occasions, such as weddings and national festivals.

Judged by our ideals, the Chinese cannot be called a musical nation. Indeed, Berlioz, the famous composer, went so far as to say that they "sing like dogs howling, like a cat screeching when it has swallowed a toad." Nevertheless, China is rich in folk songs which largely deal with love. Others are about domestic life, and there are many funeral odes, while one which is extremely popular is called "The Haunts of Pleasure."

Among the Eskimos.

Somewhat or other, one would not expect to find a liking for music among the Eskimos; but Nansen, the explorer, describes them as "astonishingly musical people." This, however, has been disputed by some authorities who say that most of their music has been borrowed, and that their melodies are taken from Europeans who have visited them. However this may be, that they have their own folk songs is undoubted.

A particular favourite of theirs is called "Amnanya," but it is certainly not notable either for its music or for its words.

Even in Tibet folk songs are to be found; but so little is known about this land of mystery that it will probably be many years before an adequate collection can be made of them.

"Homely" Peasants.

Among European nations folk songs abound everywhere, those of Germany and Russia being especially interesting. This is not to be wondered at when one considers the intensely imaginative and "homely" nature of the German and Russian peasants. Folk songs, at their best, are the songs of home life, embellished with the imagination of their authors, and as the home, fairies, birds and animals and the fear of ghosts and "Nature spirits" played so large a part in the lives of country folk the world over, it was but natural that they should have sung of these in the songs that they handed down to their children's children.

"Counting-out" Rhymes.

Of great interest to the folklorist are those numerous songs sung by children at their games, many of which have come to us from time immemorial and whose origins are lost in the mists of antiquity.

"Counting-out" rhymes, which are used by children of most nationalities, are probably among the oldest of these, and in 1888 a Mr. Bolton collected no fewer than eight hundred specimens of these curious survivals from an unknown past. C. T.

An enterprising young girl student of one of London's commercial colleges has found a new use for the wireless set lately installed at her home.

Anxious to improve her shorthand speed, and unable to get anyone to read or dictate to her, whenever the broadcasting programme includes the "S.B." of any notable speeches, she makes a point of being ready with note-book and pencil in hand and 'phones on head to endeavour to take down the speaker's remarks. These are afterwards transcribed and a comparison is subsequently made with the printed reports in the daily newspaper.

B.B.C. French Talk.

The following text will be given from London by M. F. M. Syphon on Thursday, February 12th. It is pointed here to a little further to follow the speaker used for word.

DE LA PRONONCIATION FRANÇAISE :
DES CONSONNES.

8:30 p.m., Time 719, Weather, News, Chn., Dance on
Lake Cam. (not daily).

10 p.m. a.m. Loc. (Sun.) Cap.; 1 p.m., News, Weather, Time for Snow Forecast; 2 p.m., Con. (Sun.); 2 p.m., Loc. (Sun.); 3.30 p.m., Con. (Wed.); 4 p.m., Con. (Sun.), Children (Wed.); 5 p.m., Agricultural Talk (Mon.); 5.30 p.m., Cap.; 6 p.m., Loc., English Lesson (Mon. and Fri.), Bulletin (Tue.), Expresses (Thu.), London (Sat.); 7.30 p.m., Con. (daily); 8.30 p.m., News, Weather, Time Sig.; 9 p.m., Late Con. (Sun.), Loc.

KOENIGSWATERIAESEN (LP)—Near Berlin.
2:00 p.m. 6:30 a.m. to 7:30 p.m., World's Press News.
2:00 p.m. 10:30 a.m. Com. (Sun.), Dependant Inc.
4:00 p.m. 6 a.m. to 8 p.m., News Service.
Marswolda (Berlin) 290 m. 9:15 p.m. Com. (Mon.).
3:150 m. 6:45 a.m. to 9:45 p.m., News.
KORDREICH (KAV)—1,800 m.
10:15 a.m. and 9:45 p.m., Weather Forecast.

AUSTRIA.
VIENNA (RADIO WIEN)—538 m.
Daily: 8 a.m., Markets; 10, Con. r 12.5 p.m., Time
Sig.; 12.50, Weather; 2.10, Stock List; 3 p.m.,
News; 4.10, Children (Wed.); 6.10 p.m., Ice
(Thurs. Fri. Sat.); Children (Tue.); 5.30, Ice (Wed.);
6.30, News, Weather, Snow Forecast (Fri. Sat.);
7 p.m., Time Sig., Con., News; 9 p.m., Dance (Wed.
Sat.).

BELOFUM.
BRUSSELS (ADE)—285 m.
 Daily: 3 p.m., Orch. Children (Wed. and Thurs.); Dance
 (Tue. and Sat.); 6 p.m., News; 8 p.m., Loc.; 8.15
 News; 9 p.m., 10 p.m., News.
HAERLEM (RAY)—1,100 m.
 Weekdays: 1 p.m., 2 p.m., 4.50 and 8.15 p.m., Weekend

THE UNIVERSITY OF CHICAGO

CZECHO-SLOVAKIA.
KILBY (CSP): 1,160 m.
 Weekdays: 10.30 a.m., 12, 12.45 p.m., Stock Exch.;
 4 p.m., Con. (Wed., Sat.); 6.30 p.m., Loc. News.
 Weather, Con. (Thurs. Sig., p.m.) daily; 10 a.m., Con.
 (Sun.).
KOMAROV (KRN): 1,800 m.
 2 p.m., Stock Exch. Weather, News (weekdays); 5.30
 p.m. (Thurs.) 9 a.m. (Sun.) (Sun.).

LYSIBYDIA—2,400 m.
Weekdays: 5:30 p.m., 8 and 9 p.m., News, Weather,
Time.
RYVING—1,000 m.

6.30 p.m., Eng. Lesson (Wed); 7 p.m., Out. (Tue, Fri).
HOLLAND.
AMSTERDAM (PCFF)—2,000 m.
 Daily: 7.55 a.m. to 1.10 p.m., News, Stock Exch.,
 Time Sig. (0.55 a.m. and 4.10 p.m.).
AMSTERDAM (PCNY)—1,000 m.
 8.00 p.m., Organ Recital (Mon.).
ULYVERSUM (UDC)—1,000 m.
 0.55 a.m., Children (Mon.); 7.50 p.m., Relief of Amster-

11.30 and 7.45. Weather.
 SIGHTING RECORDS—1,050 in.
 7.25 p.m. Weather.
 * Forest Moss and Sat. 7.30-11.15 a.m.
 DIETING DATA.—Abt. 940 m.
 10.4 a.m. and 4.40 p.m. Shared Service (Sun.).

HUNGARY.
BUDA PESTH (MTL)—500 m.
Ball hourly from 4.45 a.m., News, Stock Exch.; 10 a.m.,
Con. (950p); 11.30, News.

ITALY.
ROME (RO)—425 m.
7.30 and 8.20 a.m., News; 4 p.m., Orel.; 7.55 p.m.,

News, Can.; 8.15 p.m., Liv., Can.; 9 p.m., Danc.
(not daily).

ROME (Radioveridale)—634 m.
10.10 a.m., News; 11.10 Times Sig., Can.; 5.30 p.m.
Stock Exch.; 7 p.m., Can.

CENTOCHELLE (1015)—1,200 m.
Start 7.30 p.m., News.

JUVO-SLAVIA.

TELEGRAPH—1,350 m.

NORWAY.
CHRISTIANIA (OSLO) 460-500 m. (wave lengths not definitely fixed).
About 7.30 p.m., almost daily Tests.

WEDNESDAY, FEBRUARY 22, 1900. (Continued.)

W. Wed., 11 a.m., Weather; 11:25, Time; 12:15, News, Stock, Bonds; 2 p.m., Con.; 2:15 p.m., Children (Mon., Wed., Fri.); 4 p.m., Weather, News; 7:15 p.m., Loc., Con., Dance (Fri.); 9 p.m., News.

Kindays: Sat. 7:15 p.m., Con., News, Weather.

Lesquelles des le début que l'on doit leur poser (voir
etc.). Cependant des paroles de sens sont chacune cor-
respondante à la même place et d'une façon identique. Toutefois
il y a une différence entre les consonnes correspondantes
de ces paroles. Pour p, t, k, s et f le courant
expiratoire passe à travers la cavité sans y produire autre
chose qu'un bruit très léger appelé *souffle*. L'articulation de
ces consonnes n'est pas accompagnée d'une vibration des
cordes vocales (voix), ainsi articulées, appelées consonnes
sourdes. Pour b, d, g, z et v, le courant expiratoire, en con-
tact avec les cordes vocales, sous l'impulsion du souffle, pro-
duit une vibration qui fait en passant un travers, le *son*
voix. Dans ce cas le courant expiratoire est dans les tons

Les mots suivants se terminent par des consonnes
voicatives : *chêne, roseau, coupe, foule, états, sucre, vide,*
piu.

Examinons le son représenté par la lettre "g." Nous remarquons immédiatement que l'air se recueille après pendant un certain temps et que ce sont les deux lèvres qui produisent la fermeture complète du passage buccal. Nous remarquons de plus que ce son est sourd non vocalement. Le mode d'articulation, le point d'articulation et l'action des cordes vocales étant connus, la consonne est complètement définie. Le "g" est donc une consonne bilabiale fermée, et sourde avec deux cordes vocales. Le "b" est une bilabiale

de son articulation phonétique. Le *m* est donc articulé
selon une voyelle, articulée du même façon et au même
point que le *p*. La seule différence qu'il y ait entre ce
deux sons réside dans de l'action des cordes vocales.
Le son représenté par la lettre *m* est articulé au même
point que le *p* dans deux circonstances précédentes. Le *m* est donc
bilabial, mais d'un autre type, le mode d'articulation n'est
pas le même. Le contrast explicite de *m* avec *p* est dans
la bipédie par la fermeture des lèvres, mais ce n'est pas la seule
différence. On obtient par cette articulation, l'air s'échappe
librement par la naré; on a donc le son de *m* sans
conséquences qui présentent ce mode d'articulation. Le *m*
est donc une consonne bilabiale, mais vélaire.

Il serait facile de passer en revue d'autres ouvrages, tels que quelques remarquables publications relatives à l'écologie humaine, la méthode géométrique simplifiée pour identifier les personnes.

D'après le mode d'articulation nous avons donc :

1. Les consonnes fermées ou explosives (le contrant expiratoire se trouve complètement arrêté à un moment donné, puis l'obstacle vient à disparaître).

Ex. : p, b, t, d, k, g, q.

2. Des consommateurs masculins (le courant expérimental complètement arrêté dans la boucraie émise par les femelles masculins). Art. n° 11 et 12.
3. Des consommateurs féminins (le courant expérimental forcé de s'échapper par un conduit fort étroit, produisant un bruit de roulement). Art. n° 13 et 14.

4. Des consonnes vibrantes en rimes de mouvement vibratoire rapide d'un organe élastique produisant des vagues de fermetures et d'expansions que l'oreille perçoit comme un son continu. *Ex: "z"*
5. Des consonnes labiales de conduit nasal interrompé.

Maintenant après avoir examiné comment se forment les obstacles, examinons où ils se forment. Nous obtenons ainsi un nouveau classement d'après le point d'articulation. Les obstacles peuvent donc être :

1. Labiales (l'obstacle est formé entre les deux lèvres). Ex: $m \cdot n \cdot p \cdot b$.
2. Labio-dentales (l'obstacle est formé entre la lèvre inférieure et les dents supérieures). Ex: $f \cdot v$.
3. Dentales (l'obstacle est formé entre la pointe de la

8. Gencivales ou prépalatines d'obstacle en forme entre la pointe ou la partie antérieure de la langue et les gencives ou la partie antérieure du palais dur. Ex.

4. Volaires et nivaliers d'obstacle est formé entre le dos de la langue et le palais mou ou bien la fin de la cavité buccale et le "N" et le "V" nivaliers français.

After the above French Talk, M. Stephen will recite the following fables by La Fontaine:

"Le Faucon et l'Agneau" "Le Héron" "Le Jardinier et le

In a recent issue appeared a photograph of

De Groot's Orchestra sawing Mr. Serge Krish at the piano. We are now informed that Mr. Krish is no longer with De Groot's Orchestra, and that he now has an orchestra of his own.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Listeners' Letters.

(Continued from page 283.)

Listening at Kinsly-One.

DEAR SIR.—I should like to add my testimony to that of others, and to say what joy and brightness the wireless can bring to those who have "dropped out of the running," and who are cut off by age and infirmity from the joys of life.

I am 91, and totally blind, but well able to enjoy the music and speeches brought to me by wireless, and if the speaker is not too fast, I can hear and enjoy it all.

Minehead. Yours, etc., "91"

The Broadcasting of Spoken Words.

DEAR SIR.—I notice in *The Radio Times* that a listener asked for more "Spoken Words" to be broadcast, as these "came over" best of all. I quite agree with him, but might suggest that a little more care should be taken over the speakers and their subjects?

Recently, I was very disappointed; for the "Topical Talk" was so badly delivered. Surely, there are many people who could get their words over, even if the subject were not interesting to all listeners.

Worcester Park. Yours, etc., R. H. G.

Wireless for the Blind.

DEAR SIR.—Perhaps it will interest your readers to learn what this Mission is doing in the way of wireless for the blind.

Some time ago my Directors agreed to install fifty crystal sets in the homes of blind persons who are confined to bed or to the house. They allocated for this purpose £100, being at the rate of £2 per set, including licence. Thirty such sets are already installed, and the installation of the remaining sets is rapidly proceeding.

A gift such as this brings a new world within the reach of the blind, and those who have already been the recipient of sets are loud in their praise of the programmes; they especially enjoy the Church services. We find that they keep their headphones on for hours at a time, as they wish to hear all they can.

The public have generously subscribed a handsome sum which will mean the installation of additional sets, and if any other of your readers care to come to our help, their support will be warmly welcomed.

Glasgow. Yours, etc., WM. W. NESS.
(Superintendent, Mission to the Outdoor Blind for Glasgow and the West of Scotland.)

Britain's Vocal Standard.

DEAR SIR.—I quite agree with Dr. Yorke Trotter that the standard of singing in this country is not so low that we have need to be ashamed of it. But there are one or two points in his article that are, in my opinion, liable to cause confusion in the minds of vocal students. The term "*bel canto*" simply means beautiful singing, and this includes both the declamatory and "*cantabile*" styles. The declamatory singing demanded in Wagner's operas is not at all different from that of the old Italian singers when singing dramatic recitatives. It is true that *cantabile* singing is not demanded so often for the rendering of modern compositions. But if declamation is not built upon the sustained breathing required for *cantabile* singing, it ceases to be singing and becomes injurious to the performer's vocal organs. The omission in explosive and the tone harsh. The required effect should be obtained by a vigorous accentuation of the consonants, but at the same time keeping the breath under perfect control.

The *bel canto*, which Dr. Yorke Trotter seems to think old-fashioned, is even more necessary for the modern singer to enable him to combat the difficulties set him by the modern compass.

Yours, etc.,

Colder's Green, N.W.11.

D. F.

PEOPLE IN THE PROGRAMMES.

The Little Minister.



Colonel AMERY.

THERE can be no doubt that Lord Kitchener knew a good man when he saw one. He had an eagle eye for what may be called the "likeness." He once said: "I should like to start an Imperial Secret Service and put that clever little fellow Amery at the head of it."

That "clever little fellow Amery"—or, to give him his full name, Colonel Leopold Charles Maurice Stennett Amery—is now Colonial Secretary and, incidentally, the smallest man in the Cabinet. A journalist by profession, he served ten years on the staff of *The Times*. He also served on the staff of the Army in London, Flanders and Salonika, and is a glutton for work.

When, some years ago, he married a sister of Sir Hamar Greenwood, his honeymoon was postponed in order that he might fight an election.

"Honeymoons," he said, "will keep. Elections won't."

A Party Story.

ALTHOUGH Colonel Amery will, no doubt, be in a serious mood when, on February 10th, he talks of "The Economic Development of the Empire," humour is one of his strong points. Among his best stories is one of an electoral candidate who asked a stalwart, forbidding-looking woman what party her husband belonged to.

"Take a look at me," she said. "I'm the party he belongs to."

Another Great Conductor.

BRUNO WALTER, who has been chosen as conductor for the third B.B.C. International Symphony Concert on February 12th, is an international musician of the first order.

All his early work was done in Germany and Austria. At the age of seventeen he was appointed *répétiteur* at the Cologne Opera House. After that he took up important posts in Hamburg, Vienna, Berlin and Munich.

Lately he has been winning laurels in Vienna, Amsterdam and New York. In England he is recognized as one of the greatest masters of the baton.

The Carrodus Breed.

MISS CARRODUS TAYLOR, comes of musical stock. She is related to the violinist Carrodus, who was famous in his day as leader of the London Philharmonic Orchestra. She was a favourite pupil of Carl Fuchs, playing second 'cello in his quintet.

In Northern Ireland she has now established for herself an important position both as teacher and performer. She will broadcast 'cello solos from the Belfast Studio on February 9th.

A Highland Fling.

THERE will be great doings on the MacRae Clan Night in Glasgow on February 13th. For one thing, Kenneth MacRae will sing—and to hear his rendering of "Glencoe" is to conjure up a vivid picture of the dark spot which stained so unappetizingly a page in the history of the Highland Clans.

For another thing, there will be the speech of Lieut.-Col. John MacRae-Gilstrap, President of the Clan MacRae Society, who will give a short sketch of its history, and who, ten years ago, acquired the island and castle of Eilean Donan in Kintail, round which has centred the Clan history for five centuries.

An Early Starter.

MISS MURIEL CHILDE, who will be heard at the Belfast Symphony Concert on February 11th, began her career at the mature age of two when, in imitation of her mother, she gave a reciting performance of one of Tom Moore's Irish melodies. Since that day she has never looked back!

Miss Childe has often appeared at the Belfast Studio and sang at the official opening ceremony. Her charming children's songs and stories are one of the most popular features of the Children's Corner.

A Man of Glee.

LEONARD SALISBURY also began young. When still in knickerbockers he heard the Meister Glee Singers and was so impressed that he resolved straightway on his career. Later on, he formed the Orchestral Glee Singers.

While leading this famous quartet in *The Bing Boys* and *The Bing Girls*, Mr. Salisbury also acted as Lay Clerk at Southwark Cathedral and Lay Vicar at Westminster Abbey. He has now founded the Salisbury Singers, who made their bow to an unseen audience from London in October last.

He will broadcast again from the High-Power Station on February 10th.

"Becoming" Performances.



Miss MONA GREY.

THE child imitations of Mona Grey are unique. Everybody who heard her first broadcasting performance agrees on that, and looks forward to her reappearance at the London Studio on February 11th.

Her child voice is perfect. It is not a falsetto, but a properly produced high soprano; and her performance is not so much imitating as becoming, for she declares that she has to feel like a child before she attempts to sound like one.

Nothing annoys her more than to be asked: "Doesn't that child voice strain your voice dreadfully?" It doesn't. Readers are therefore warned not to write in with that query of to accuse the B.B.C. of having inveigled into the studio a toddler who ought to be in bed!

A Threesome.



MR. ERET HAYDEN.

BRET HAYDEN, broadcasting from London on February 10th, was the first entertainer for Lena Ashwell in her Concerts at the Froat. Has performed in France, Germany, South Africa, India, Egypt and Palestine.

Norway, collaborating in her handbell entertainment with Mollie Seymour, the violinist, on February 14th. Has performed before Princess Beatrice, Princess Marie Louise, Princess Victoria, and the late Prince Christian.

Dr. Kendrick Pynn, organ recital, February 14th. Organist to All Saints' Church, Bath, at the age of eleven. Now President of the London Guild of Organists. "OYEZ!"

WIRELESS PROGRAMME—SUNDAY (Feb. 8th.)

(The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.)

2LO LONDON. 365 M.

THE GLANHOWY CONCERT PARTY

FLORENCE HOLDING (Soprano).
HARRY TUCKER (Bass).
EDITH HILTON-FAGGE
(Solo Pianoforte).
JOSEPH SLATER (Solo Flute).
CHARLES LEGGETT (Solo Cornet).
S.B. to other Stations.

30. Concert Party.

"Invictus" *Protheroe (2)*
"Down Among the Dead Men"
..... *arr. Vaughan Williams*
"The Hunter's Farewell" *Mendelssohn (2)*
..... *Joseph Slater*
English Air *B. Carte*
Mouset's March *Schubert, arr. Slater*
Edith Hilton-Fagge.
Gavotte in G Major (From French Suite)
..... *Bach*

Songs { No. 1 in E Major }
Without { No. 14 in C Minor } *Mendelssohn*
Words { No. 34 ("The Rose"
Wedding") }
..... *Florence Holding.*

3.35. "Nymphs and Shepherds" *Percoll (11)*

"Deh vieni, non tardar" *Mozart (11)*

"Lullaby" *P. Keel (14)*

Charles Leggett.

"Ave Maria" (By Request) *Schubert*

Concert Party.

"Italian Salad" *Genie (2)*

"John Peel" *J. E. West (11)*

"The Wanderer" *Elgar (11)*

40. Joseph Slater.

"Bourrée and Menuet" *Handel*

"Spring Song" *Mendelssohn*

"Jig" *Handel*

Harry Tucker.

"Hiawatha's Vision" *Coderidge-Taylor (11)*

Charles Leggett.

"Romanza" *Mattai*

Florence Holding.

"The Lass With the Delicate Air"
..... *Arns, arr. A. L.*

"At the Well" *Hageman*

"Spring" *Henschel (1)*

4.35. Edith Hilton-Fagge.

"Granada Serenade" *Albeniz*

Castilian Seguidillas *Chopin*

Valse in D Flat Major *Concert Party.*

"The Anvil" *Adam (2)*

"Night" *Schubert*

"Y Delyn Aur" (Song in Welsh)
..... *Pugh Evans*

5.0-5.30.—CHILDREN'S CORNER. S.B. from

Bournemouth.

5.0.—The Bells of St. Martin.

A Simple Service

in which all people can join.

With an Address by

The Rev. JOHN KELMAN, D.D.

Relayed from St. Martin-in-the-Fields.

Popular Orchestral Programme.

S.B. to Glasgow.

NORMAN ALLIN (Bass).

BEATRICE HARRISON (Solo Violoncello).

THE WIRELESS ORCHESTRA.

Conducted by DAN GODFREY, Junr.

9.0. The Orchestra.

Grand March, "Cleopatra" *Mancinelli*

Norman Allin (with Orchestra).

"Il Lacerato Spirito" ("Simon Boccanegra")
..... *Verdi*

The Orchestra.

"Serenade for Strings" *Faelli*

"Dancing Doll" *Poldini*

9.30. (approx.) Beatrice Harrison.

"Orientale" *César Cui*

"Pavane Hong"

Wagner-Wilhelm, arr. Beatrice Harrison

The Orchestra.

Intermezzo, "El Salado" *Andrés*

Norman Allin.

"See the Way, You

Rogues" ("Forsaglio") *Mozart*

"When a Maiden"

The Orchestra.

"Gopak" *Mentecovsky*

10.0.—TIME SIGNAL FROM GREENWICH.

WEATHER FORECAST and GEN-

ERAL NEWS BULLETIN, S.B. to all

Stations. Local News.

10.15. Beatrice Harrison (with Orchestra).

Concerto for Violoncello and Orchestra in D

Major

The Orchestra.

"Hymns & St. Cecilia" *Gounod*

10.30.—Close down.

5IT BIRMINGHAM. 475 M.

3.0-5.0. THE STATION ORCHESTRA.

Conducted by JOSEPH LEWIS.

ISABEL TEBBS (Soprano).

FRANK CATELL (Solo Violin).

WILLIAM CLARKE (Solo Bassoon).

The Orchestra.

Overture, "A Midsummer Night's Dream"

Op. 21 *Mendelssohn*

Isabel Tebbes.

"My Heart Ever Faithful" *Bach*

Frank Catell and Orchestra.

Concerto in E Flat Major (for Violin and

Orchestra) *Mozart*

Isabel Tebbes.

"I Will Go With My Father A-Ploughing"

..... *R. Quilter (4)*

The Orchestra.

"Surrem Corda" *Elgar*

William Clarke.

Humoresques *Guy Jones*

Isabel Tebbes.

"Over the Land is April" *R. Quilter (4)*

The Orchestra.

March, "Funeral March of a Marionette"

..... *Gounod*

William Clarke and Orchestra.

Adagio and Rondo from Bassoon Concerto

..... *Weber*

The Orchestra.

Welsh Rhapsody *Gervais (11)*

5.0-5.30.—CHILDREN'S CORNER. S.B. from

Bournemouth.

5.30-9.0.—Hymn, "Alleluia, Song of Sweetness"

(A. and M., No. 82).

Religious Address by the Rev. J. GOOD-

YEAR, United Methodist Church, Wash-

wood Heath.

Hymn, "Creator of the World, to Thee"

(A. and M., No. 83).

9.0-10.0. Chamber Music Programme.

THE CATTERALL QUARTET:

ARTHUR CATTERALL (1st Violin),

JOHN S. BRIDGE (2nd Violin),

FRANK S. PARK (Viola),

JOHAN C. HOCK (Violoncello).

The Quartet.

Quartet in G Major *Mozart*

Allegro vivace assai; Menuetto, allegretto;

Andante cantabile; Finale, molto allegro.

Quartet in E Flat, "The Harp" *Beethoven*

Introduction, poco adagio leading to Alle-

gro; Adagio; Scherzo; Finale, allegretto

con variazioni.

10.0.—WEATHER FORECAST and NEWS.

S.B. from London.

Local News.

10.15. The Quartet.

Oriental *Grieg*

Berceuse *D'Osten-Sacken*

Londonderry Air *arr. Frank Bridge*

Canzonetta *Mendelssohn*

10.30.—Close down.

6BM BOURNEMOUTH. 385 M.

3.0-4.45. BAND OF THE 1ST BN.

THE ARGYLL AND SUTHERLAND

HIGHLANDERS.

ALICE COOMBE.

Relayed from

South Parade Pier, Southsea.

5.0-5.30.—CHILDREN'S CORNER. S.B. to all

Stations.

8.30. Descombe Congregational Church Choir.

Hymn, "Saviour, Blessed Saviour" (Tune

"Norfolk Park") (No. 155, Congrega-

tional Hymnary).

Anthems No. 967, "I Am Alpha and

Omega."

The Rev. E. F. KNIGHT, B.D., of Hoc-

combe Congregational Church: Religious

Address.

Choir, Hymn No. 211, "Lord of Our Life."

6.50. THE "6BM" TRIO.

REGINALD S. MOUAT (Violin).

THOMAS E. ILLINGWORTH

(Violoncello).

ARTHUR MARSTON (Piano).

First Movement from Trio in C Minor

..... *Mendelssohn*

9.0. ETHEL BROWNLOW (Mezzo-Soprano).

"O Divine Redeemer" *Gounod (12)*

9.5. AUSTIN DEWDNEY (Solo Pianoforte).

"Polichinella" *Rachmaninov*

"Cherry Ripe" *Cyrd Scott*

"Mere" *Balfour Gardiner (17)*

"Triaun" *Albeniz*

8.20. Trio.

2nd and 3rd Movements from Trio in C

Minor *Mendelssohn*

9.40. Ethel Brownlow.

"How Lovely Are Thy Dwellings"

..... *Liddle (1)*

9.45. Trio.

Finale from Trio in C Minor *Mendelssohn*

10.0.—WEATHER FORECAST and NEWS.

S.B. from London. Local News.

10.15. Austin Dewdney.

Berceuse *Chopin*

10.30.—Close down.

5WA CARDIFF. 351 M.

3.0-4.30. THE CORY SILVER BAND:

Conductor, J. G. DOBBING.

MAY BURLEIGH (Soprano).

Band.

Overture, "Rule, Britannia!" *Rimmer*

Selection, "The Poacher" *Lortie*

May Burleigh.

"Our Little Home" *Eric Coates*

"Thoughts Have Wings" *Liza Lehmann*

"Big Lady Moon" *Coderidge-Taylor (1)*

Band.

Cornet Solo, Air Varié, "Robin Adair"

..... *Hartman*

(Soloist, A. TROTMAN.)

Unfinished Symphony, 1st Movement

..... *Schubert*

May Burleigh.

"Sing, Joyous Bird" *Montague Phillips*

"Still as the Night" *Carl Rahm*

"Morning" *Oley Speaks*

Band.

Intermezzo, "The Wedding of the Rose"

..... *Jeusel*

Euphonium Solo, "O Ruddier Than the

Cherry" *Handel*

(Soloist, T. TROTMAN.)

May Burleigh.

"A Woman's Last Word"

..... *Granville Bantock*

"Thank God For a Garden"

..... *Perce Del Riego*

"Here is the Quiet Hills" *Gerald Coene*

Band.

Selection of Handel's Songs.

"Variation on a Welsh Melody" *Rimmer*

5.0-5.30.—CHILDREN'S CORNER. S.B. from

Bournemouth.

5.30. THE "5WA" MALE SEXTET.

Hymn, "Eternal Father, Strong to Save"

(A. and M., No. 370) *Dykes*

Anthem, "God is a Spirit"

..... *W. Sterndale Bennett*

Mr. GEORGE M. L. DAVIES, Ex-M.P.

for the University of Wales, will talk on

"The Politics of Grace."

Hymn, "The Day is Past and Over"

..... *Rev. J. B. Dykes*

Benediction.

9.0. Czech-Slovakian Programme.

INA JANSSEN (Mezzo-Soprano).

THE STATION SYMPHONY

ORCHESTRA:

Conductor, WARWICK BRAITHWAITE

A number against a musical item indicates the name of its publisher. A key list of publishers will be found on page 369.

WIRELESS PROGRAMME—SUNDAY (Feb. 8th.)

The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.

Orchestra.
Overture, "The Bartered Bride" *Smetana*
Ina Janssen.
"If Through all the Wide World"
"Mother Said"
"Darling Nan"
"In St. Nick's Regiment"
Sleeper's
Orchestra.
Overture, "In der Natur" *Dvorak*
Ina Janssen.
Gipsy Songs
"I Chant My Lay"; "Hark, My Triangle"; "Silent Woods"
Orchestra.
Overture, "Sappho" *Goldschmidt*
10.0.—WEATHER FORECAST and NEWS.
S.B. from London. Local News.
10.15. **Orchestra.**
Symphonic Poem, "From the Fields of Bohemia"
10.30. "The Silent Fellowship."
10.45.—Close down.

2ZY MANCHESTER. 375 M.

Band Programme.

BAND OF THE SALFORD POLICE.
(By kind permission of the Chief Constable.)
Conductor, THOS. WILSON.
JOSEPH MARKHAM (Tenor).
Band.

March, "Heroic" *Saint-Saens*
Selection from Grieg's Works.
"Three Irish Pictures" *Ansell*
Joseph Markham.

"I Know That My Redeemer Liveth" *Bach*
Recit., "Thanks to My Brethren" *Handel*
Air, "How Vain is Man" *(11)*
"Gentle, Holy Saviour" *Gounod (12)*
Band.

Overture, "Maritana" *Wallace*
Selection of Sanderson's Songs *(1)*
Romance, "Confession" *Thorne*
Idyll, "Whispering of the Flowers" *Blon*
Joseph Markham.

"An Old Carol" *Quilter*
"A Persian Love Song" *Bantock*
"Care Selvo" *Handel*
"I'll Sail Upon the Dog-Star" *Puccini*
Band.

Selection, "Madame Pompadour" *L. Fall*
Two Characteristic Waltzes
Cateridge-Taylor (11)

March, "Martiniague" *Orbinski*
Hymn, "Abide With Me."

6.0-6.30.—CHILDREN'S CORNER. S.B. from Bournemouth.

6.0.—S. O. HONEY: Talk to Young People.

6.25.—Hymn, "O na chawn i dwg Nyfryd."

The Rev. J. H. LLOYD-WILLIAMS, of Moss Side Welsh Presbyterian Church.
Religious Address.

Hymn, "Wels lawson y Messiah."

Chamber Music.

8.45. THE "2ZY" STRING QUARTET.

Quartet in A Major, Op. 18, No. 5 *Beethoven*
Allegro; Minuet; Andante Cantabile (with Variations); Allegro.

Quartet in A, Op. 111, No. 1 *Beethoven*
Allegro Moderato; Scherzo (Presto); Adagio Expressivo; Finale.

10.0.—WEATHER FORECAST and NEWS.
S.B. from London. Local News.

10.15. **Quartet.**

Quartet in D Minor, No. 13 *Mozart*
"Ave Maria" *Schubert*
10.30.—Close down.

5NO NEWCASTLE. 400 M.

3.0-5.0.—Programme S.B. from London.

5.0-5.30.—CHILDREN'S CORNER. S.B. from Bournemouth.

6.30-7.45.—Service relayed from Bournemouth Chapel.
Preacher, the Rev. T. H. KIRKMAN.

MARY LOHDE (Soprano).
BERMANN McLEOD'S STRING
QUARTET.

9.0.—Pianoforte Solo, Capriccio in F Sharp Minor *Bridge*
(Soloist, MAY CONN.)

9.5.—Movement from Trio in G Minor *Reisiger*

9.15. Mary Lohden.

"The Lass with the Delicate Air" *Old English*

"Where the Bee Sucks" *Old English*

"I'm Owe Young to Marry Yet" *Old Scot*

9.25.—Violoncello Solo, "Harlequin and Butterfly" *Popper*

(Soloist, JAMES GRIFFITHS.)

Violin Solo, English Dance *Dale (17)*

(Soloist, HERMANN McLEOD.)

9.35. Mary Lohden.

Rustic Songs XVIII. Century.

9.45.—Quartet, Irish Dance, "Molly on the Shore" *Greninger*

Quintet, Scottish Dance, "Celtic Song" *Anon.*

10.0.—WEATHER FORECAST and NEWS.
S.B. from London. Local News.

10.15. **Quartet.**

Variations on Austrian Hymn *Haydn*

10.25.—Close down.

ABERDEEN. 495 M.

3.0-5.0.—Programme S.B. from London.

5.0-5.30.—CHILDREN'S CORNER. S.B. from Bournemouth.

8.30. Garden Place U.F. Church Choir.

Psalm 93 (Tune, "Stroudwater").

The Rev. THOS. ANDERSON, M.A.,

Garden Place U.F. Church: Religious

Address. Hymns 606 and 306.

GEORGE DUNCAN'S CHOIR AND

ORCHESTRA.

9.0. **Orchestra.**

"Roveris" *Knatten*

Choir.

Psalm 124 (Second Version) (Tune, "Old 124th").

Hymn 234 (Tune, "St. Petersburg").

Anthem, "O How Amiable Are Thy Dwellings" *Samper (2)*

MARJORIE D. CHALMERS (Soprano).

"Morning" *T. del Negro*

Choir.

Hymn 323.

Orchestra.

"Cathedral Chimes" *Brown*

Choir.

Anthem, "I Will Lift Up Mine Eyes" *Whitehead (2)*

JAMES G. FYFE (Tenor).

"Lead, Kindly Light" *Bernard*

Choir.

Hymn 205.

Anthem, "Abide With Me" *Thompson*

Paraphrase 43 (Tune, "Crimond").

10.0.—WEATHER FORECAST and NEWS.
S.B. from London. Local News.

10.15. **Orchestra.**

"The Heavens Are Telling" *Haydn*

Choir.

Hymn 351.

10.25.—Close down.

5SC GLASGOW. 420 M.

3.0-5.0.—Programme S.B. from London.

5.0-5.30.—CHILDREN'S CORNER. S.B. from Bournemouth.

Choir.

Hymn, "Pleasant Are Thy Courts Above."

The Rev. WILLIAM WALLIS, of Yorker

Parish Church: Religious Address.

Hymn, "O Jesus, I Have Promised."

Prayer.

Hymn, "Christians, Seek Not Yet Repose."

9.0.—POPULAR ORCHESTRAL PRO-

GRAMME. S.B. from London.

10.0.—WEATHER FORECAST and NEWS.
S.B. from London. Local News.

10.15-10.30.—Programme S.B. from London.

A number against a musical item indicates the name of its publisher. A key list of publishers will be found on page 305.

High-Power Station Programme.

5XX. 1600 M.

SUNDAY, February 8th.

3.0-5.0.—Programme S.B. from London.

5.0-5.30.—CHILDREN'S CORNER. S.B. from Bournemouth.

8.0-10.30.—Programme S.B. from London.

MONDAY, Feb. 9th. THURSDAY, Feb. 12th.

FRIDAY, Feb. 13th.

6.30-6.15.—CHILDREN'S CORNER. S.B. from London.

6.40 onwards.—Programme S.B. from London.

TUESDAY, February 10th.

6.30-6.15.—CHILDREN'S CORNER. S.B. from London.

7.0-7.30.—Programme S.B. from London.

"Star" Ballad Concert.

CARMEN HILL (Mezzo-Soprano).

SYDNEY COLTHAM (Tenor).

ANGUS MORRISON (Solo Pianoforte).

JOHN HENRY.

THE SALISBURY SINGERS.

7.30. Salisbury Singers.

"Tune Thy Music to Thy Heart"

Thomas Campion

"O Mistress Mine"

Wm. Byrd, arr. A. C. Dixon

"Drink To Me Only With Thine Eyes"

McBush, arr. J. W. Lacey

"By Colin's Arbour" *Harley*

Carmen Hill.

"To Delicia" *Roger Quilter (1)*

"Love's Philosophy" *Roger Quilter (1)*

"Land of Silence" *Roger Quilter (1)*

"Song of the Buckbird" *Angus Morrison.*

Prelude in B Flat Major *Chopin*

Study in E Flat Major *Chopin*

Study in F Major *Chopin*

Mazurka in B Flat Major *Chopin*

8.0 (approx.). Sydney Coltham.

"Go, Lovely Rose" *Roger Quilter (1)*

"Damsel's Rose" *Roger Quilter (1)*

"Fair House of Joy" *John Henry*

on "Things in General" *Carmen Hill.*

"Cradle Song" *Arnold Bax*

"I Heard a Piper Piping" *Arnold Bax*

"Oh, Dear, What Can the Matter Be?" *Arnold Bax*

8.30 (approx.). Angus Morrison.

Bartok, No. 1 *Gabriel Fauré*

Sydney Coltham.

"My Lady Sleeps" *Cyril Scott (4)*

"A Serenade" *Cyril Scott (4)*

8.45.—The Rt. Hon. L. S. M. AMERY, M.P.,

Secretary of State for the Colonies, on

"The Economic Development of the

Empire," relayed from the Royal

Colonial Institute.

Angus Morrison.

"Passepied" *Debussy*

"Gulliwog's Cake Walk" *John Henry*

on "General Things" *Salisbury Singers.*

"Bold Turpin" *Bridge (11)*

"A Ballad When at Sea" *A. H. Brewer (11)*

"The Molligan Musketeers" *Atkinson (2)*

9.30.—WEATHER FORECAST and NEWS.
S.B. from London.

Prof. R. S. RAIT. S.B. from Glasgow.

10.0. THE SAVOY BANDS. S.B. from London.

11.0.—Close down.

WEDNESDAY, February 11th.

6.30-6.15.—CHILDREN'S CORNER. S.B. from London.

7.0.—WEATHER FORECAST and NEWS.
S.B. from London.

Prof. T. H. PEAR. S.B. from Manchester.

7.30-10.30.—Programme S.B. from London.

SATURDAY, February 14th.

6.30-6.15.—CHILDREN'S CORNER. S.B. from London.

6.40-7.30.—Programme S.B. from London.

7.30-8.30.—Programme S.B. from Cardiff.

9.30-12.0.—Programme S.B. from London.

WIRELESS PROGRAMME—MONDAY (Feb. 9th.)

The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the station mentioned.

2LO LONDON. 365 M.

3.15-3.45.—Transmission to Schools: Mr. GEOFFREY SILAW on "Music."

4.0-5.0.—Tune Signal from Greenwich. "Vegetables and Vanities," by Carmen of Cockayne. Music performed during Afternoon Tea at the Trocadero. "What a Four-Year-Old Can Do At Home," by Muriel Winch.

5.30-6.15.—CHILDREN'S CORNER: "The Beetle that Wanted to be a Star," by Christine Chandler. A Story by E. Leighton Martin. Auntie Sophie—Pianoforte Solo.

6.40-6.55.—Boys' Brigade, Boys' Life Brigade and Church Lads' Brigade Bulletins.

7.5.—TIME SIGNAL FROM BIG BEN. WEATHER FORECAST and 1ST GENERAL NEWS BULLETIN. S.B. to all Stations.

Mr. W. D. LANG, D.Sc., Dept. of Geology, Natural History Museum, "The Sea Shore—The Cliffs of the South Coast." S.B. to all Stations. Local News.

7.30. "Round the World in Music."

A Circular Tour

with

EMMA DHAI (Scottish Soprano).

KARI FORFANG (Norwegian Soprano).

F. H. ETCHVERRIA (Baritone).

FLORENCE LOCKWOOD (Solo Violin).

SINCLAIR LOGAN (Solo Pianoforte).

JENOME MURPHY (Irish Entertainer).

C. POLLARD CROWTHER.

THE WIRELESS ORCHESTRA:

Conducted by DAN GODFREY, Junr.

ENGLAND.

March, "Colonel Bogey" Alfred

Piano Solo, An English Caprice

A Folk Song Sinclair Logan

SCOTLAND.

Overture, "Flora's Cave" Mendelssohn

IRELAND.

"The Lark in the Clear Air"

Traditional, arr. Lisa Lehmann

Violin "The Londonderry Air" O'Connor Morris

Solo "The Foggy Dew" Stanford (1)

Jenome Murphy, "The Irishman at Home" Murphy

Patrol, "The Boys of Tipperary" Amers

WALES.

Folk Song, "All Through the Night" FRANCE.

March, "Lorraine" Ganne

Folk Song, "Verdunette" Debussy

"Collingwood's Cake Walk" BELGIUM.

"The Beethoven Song" HOLLAND.

Folk Song "The Giant Song" DENMARK.

Folk Song, "Liden Karen" SWEDEN.

Folk Song, "Om dagen ved mit arbete" NORWAY.

Piano Solo, "Home Sickness" Grieg

Folk Song, "Eg ser deg uter glaggen" FINLAND.

"Flickan kom från sin älskings möte" GERMANY.

(Song in Swedish) Song, "Verpöliches Stundchen" ("The

Vase Suit") SWITZERLAND.

Folk Song, "The Lovers of Aargau" ITALY.

"Best Song" (Unaccompanied) ITALY.

Folk Song "Loro Song" ABRAMI

Folk Song "Holiday Song" LOMBARDY

AUSTRIA.

Violin Solo, "A Viennese Waltz" arr. Kreisler

SPAIN.

"Agua viviente un viento" Old Spanish (From "Los Luthistas Espagnols du 16e. Siècle.")

"Granadinas" Recent Spanish, Estaban England

"Two Spanish Dances" Morchowski

PORTUGAL.

"Fado d'Epiphania" Fauto de Neves

AFRICA.

"An African Dance" Coleridge-Taylor

ARABIA.

Violin Solo, "Arabian Melody" Glazunov

INDIA.

"A Hindu Picture" Hansen

TIBET.

Native Music by Lamas from Tibet, with

Descriptive Chat by Capt. J. NOEL, F.R.G.S.

SIBERIA.

"Gopak" Monastyrsky

Here we shall listen to the:

9.50.—TIME SIGNAL FROM GREENWICH.

WEATHER FORECAST and 2ND

GENERAL NEWS BULLETIN. S.B. to all Stations.

Topical Talk.

Local News.

10.0.—Continuing the "Round the World" Tour

we now visit:

MALAYA.

Malay Folk Songs, "Pinto Dance,"

"Tug of War."

CHINA.

Violin Solo, "Chinese Folk Song" arr. Goussens

JAPAN.

An Illustrated Five Minute Chat on

"Japanese Music Making," by C. Pollard

Crowther.

CANADA.

"Land of the Maple and Beaver" O'Neill

U.S.A.

Jerome Murphy will Discourse on "The

Irishman Abroad."

Selection of American National Airs

SOUTH AMERICA.

"Duroc Man" Estaban England

HOME AGAIN.

The British National Anthem.

Note: The English, Irish, Welsh, Spanish,

Portuguese and S. American Songs sung

by F. H. Etchverria; the French,

Dutch, Swiss, Italian and Malayan by

Emma Dhai; and the Norwegian,

Danish, Swedish, Finnish and German

by Kari Forfang.

10.50.—Close down.

5IT BIRMINGHAM 475 M.

3.30-4.30.—The Station Wind Quintet. Eith-

beth Benson (Soprano).

5.0-5.30.—WOMEN'S CORNER: Sidney

Rogers, F.R.I.S., "Plants for Small

Gardens." Anne Sanders (Contralto).

5.30-6.30.—CHILDREN'S CORNER.

6.30-6.45.—Teens' Corner: Norman E. L.

Guest, B.A., History Talk No. 5, "Towns

and Guilds."

6.45-6.55.—For Allotment and Small Holders:

Mr. Whythead of the Ministry of Agricul-

ture: "How to Purchase Eggs for

Saving."

7.0.—WEATHER FORECAST and NEWS.

S.B. from London.

Mr. W. D. LANG. S.B. from London.

Local News.

A Triple Bill

by

THE STATION PLAYERS:

Under the Direction of

WILLIAM MACREADY.

UNA TRUMAN (Solo Pianoforte).

Players.

7.30. "CHEATING THE HANGMAN"

A Drama in One Act by Walter F. Garrod.

Harvey Otton (An Estate Agent)

WILLIAM MACREADY

Margaret Otton (His Sister)

EDNA GODFREY TURNER

Mr. Peckett (A Solicitor)

E. STUART VINDEN

Maid at the Hotel HILDA POWIS

Police constable FRANK V. FENN

Scene.—The private sitting-room in a

County Town Hotel.

8.8. Una Truman.

Rhapsodie, Op. 79, No. 2 Brahms

Valds in A Flat Alice Rousley

"Baro Ben Jonson" Harry Hodge (34)

Waltz—Sketch Players.

8.15. "WHERE THERE'S A WILL."

A Farce in One Act by J. M. Morton.

Mr. Buzzard FRANK V. FENN

Mr. Glimmer E. STUART VINDEN

Mr. Small WILLIAM MACREADY

Miss Buzzard

EDNA GODFREY TURNER

Sally HILDA POWIS

Scene.—An Apartment at Buzzard's.

9.15. Una Truman.

Allegro Moderato Mazurka

Air Chopin

Polonaise, Op. 26, No. 1 Chopin

Polonaise, Op. 40, No. 1 WEATHER FORECAST and NEWS.

S.B. from London.

Topical Talk. Local News.

10.0. Players.

"A DAUGHTER'S CHOICE"

A Play in One Act by Donald Edwards.

Margaret Hertz

EDNA GODFREY TURNER

Lilian Hertz EDNA LESTER

Henry Hertz, M.P.

WILLIAM MACREADY

Scene.—A Room in Hertz's House.

10.30.—Close down.

6BM BOURNEMOUTH. 330 M.

3.45-5.0.—Talk to Women by Mr. R. Hart-

Synnot (Bursar of St. John's College,

Oxford). R. T. George (Songs at the

Piano). THE ROYAL BATH HOTEL

DANCE ORCHESTRA, relayed from

King's Hall Rooms. (Musical Director,

DAVID S. LIFF.)

5.0-5.55.—CHILDREN'S CORNER.

5.55-6.0.—Boys' Brigade, Boys' Life Brigade

and Church Lads' Brigade Bulletins.

6.0-6.30.—Scholars' Hall Hour: "Poets and

Place in Our History," by P. W. Law-

rence, A.C.P.

7.0.—WEATHER FORECAST and NEWS.

S.B. from London.

Mr. W. D. LANG. S.B. from London.

Local News.

Comic Opera Night.

7.30. "LES CLOCHES DE CORNEVILLE"

(Robert Planquette) (15).

A Comic Opera in Three Acts.

Characters:

Marquis de Corneville ... ERNEST LADY

Gaspard (The Miser) ... GEORGE STONE

The Butle KENDRICK DEAN

Grandmother HAROLD STROUD

Gobe (The Butle's Shadow)

ALFRED WOOD

Serpolette (A Wait) MARJORIE STONE

German GRETTA DON

THE WIRELESS ORCHESTRA:

THE "GEM" CHORUS:

Conducted by

Capt. W. A. FEATHERSTONE.

Produced by

GEORGE STONE and W. R. KEENE.

8.30.—WEATHER FORECAST and NEWS.

S.B. from London.

Topical Talk. Local News.

10.0.—"Les Cloches de Corneville" (Con-

tinued).

10.30.—Close down.

A number against a musical item indicates the name of its publisher. A key list of publishers will be found on page 200.

THE CHILDREN'S CORNER. CONDUCTED BY THE AUNTS AND UNCLES.

Sands of the Sea-shore.

HILL. Here is a talk that you will certainly like. It is by Mr. W. Campbell Smith, of the Natural History Museum.

The sea-shore is full of interest to all lovers of nature, and of the common objects of the sea shore, the sand is, surely, the most familiar.

Sand consists of innumerable minute rounded substances—minerals—very clean and free from mud, and with nothing to bind the grains together into a solid rock.

In the finest sands they measure no more than one two-hundred and fiftieth of an inch. If you were to pour a million grains of medium grained sand, you could cover 2,000 grains with a penny.

Many Different Kinds.

If you examine any of the sands from the sea-shore, you will find that out of every hundred consist of white or pale yellowish grains, some of them are of quartz or rock-crystal, but some of them are of another mineral. These grains are often a few of darker colours, black grains of magnetite or ilmenite, dark red garnets, and a host of other minerals of increasing scarceness. As these in Great Britain are quartz-sands, but in other parts of the world there are patches of sand of quite different composition.

On the shores of some volcanic islands sand is black and consists of bits of basalt-lava, and grains of dark-coloured minerals washed out of the volcanic rocks.

If you examine a handful of sand from any beach, you will be struck by the uniformity of the grain-size and the cleanliness or absence of any fine mud. The sand is one of the products of the wearing down of the land and is washed down to the sea by the great rivers mixed with

silt and mud, and sometimes gravel, and the sea is always at work grinding, washing and re-sorting this mass of sediment.

You can watch this grinding process going on at a sandy beach. The sea is always trying to eat its way into the land, so wherever the cliffs are of soft rocks, the sea hollows out bays. Although the sea is constantly eating its way forward, the waves cannot cut away the rock below water level, and so in most bays you have below the water and sand a long, gently-sloping platform of rock. This is the sea's washing table.

The Work of the Waves.

You will have noticed how above the high tide mark the sand gives place to a pebbly beach, and how, as you go further from the sea and up the beach, the pebbles get larger and larger till you come, perhaps, to great boulders at the foot of the cliffs. This grading into pebbles is the work of the waves. The wave rushing forward carries in a mixture of mud, sand and pebbles, rolling them forward till its force is spent. As the water runs back, having no longer the force of the wave, it cannot carry the big stones with it; small pebbles slip back a little way, but these too soon drop, and only the fine sand is drawn back into the water itself to settle farther out on the shelving platform of the shore.

The sand does not always remain on the same part of the coast. Many of you will have noticed how, after a strong wind, the beach is piled up on the windward side of the breakwaters. Along the south coast there is a general drift of beach and shore materials from west to east. This is due to the fact that the waves strike the shore obliquely, but the back-wash runs back down the steepest slope, making a little angle with the line of its approach. So the sand-grains which go forward with the waves are carried back a very little way farther along the shore.

One observer found that a sand grain might travel sideways about one-third of an inch for

each time a wave carried it up and down the shore, and, to accomplish this sideways shift, it must have travelled between four and five yards up and down. In spite of the very tedious method of progression, some sand grains are great travellers. On the west coast of Denmark there are sand-grains of flint, which have come from the chalk cliffs of Normandy. This is 600 miles away as the crow flies, but the sand grains in their curious zig-zag course must have travelled a million miles.

It may seem remarkable that with all this washing to and fro the sand grains do not get worn away. It is a case of the survival of the fittest, for when grains of a mineral as hard as quartz as small as the grains of fine sand, they float so easily in moving water that they suffer with any abrasion at all. These sand grains are almost indestructible. Some of them may be as old as the sea itself—hundreds of millions of years old—yet others are being made in the sands to-day. So, as the sea wears away the amount of sand must steadily increase.

Musical Footsteps.

Under certain conditions, not yet properly understood, the surface layer of some sand beaches can be heard to emit a low, musical note as people walk over it and at the same time a tingling sensation is usually felt in the foot that starts the noise. In some ways, the surface of the sand, when struck is set in actual vibration and the vibrations must be a fairly frequent and regular to produce a note. These musical beaches are not uncommon. They may be looked for between tide levels where the sand is exceptionally clean and where the surface layer loses the interstitial water so that the grains are free to slide easily over each other. Such beaches or patches of musical sand have been recorded in Great Britain at Studland Bay, near Poole, at Shrikley Haven, near Tenby, near Barmouth, at Llanwr, in Forfar, on the Island of Enez, in the Inner Hebrides, and I have heard a good one at Porth Cerr, in Wales.

THE OLD LADY IN THE OAK TREE.

By A. COLEMAN HICKS.



There stood a dear old lady with perfectly white hair.

Phyllis was a little girl, but she was very clever. She was sitting under the big oak tree when she nearly choked poor pussy, her fox-terrier, by hugging his collar so tight that his eyes bulged, and Jim had to come to the rescue. She did not realize that she was so strong.

One lovely afternoon, Phyllis and her mother were walking in the woods. Her mother had told her to be sure to keep to the path, so that she could not be lost, but "Spot" had wandered

away and disappeared into a clump of bracken so she thought she had better follow him in case he got lost.

On through the bushes and ferns she ran, every now and then catching sight of "Spot" as he dashed along, but getting no nearer to him.

At last she could go no further and sat down by a huge old oak tree to rest—she was hot and tired. "Spot" was nowhere to be seen, and she had no idea where she was.

"I don't care," she thought, "he is sure to come back soon, and he'll know the way home."

Just then she was startled by a soft voice calling her, and it seemed to come from the oak tree. Looking round, she saw that there was a door in the big trunk, which she hadn't noticed before, and it was open. There stood a dear Old Lady with perfectly white hair. "Come in and rest, my dear," she said, "you're very tired. I know."

So Phyllis went in and the Old Lady shut the door.

Phyllis found herself in a big room lighted from above, and on the wall was written in large letters: "LIVE ONE ANOTHER."

In the room there was the strangest collection of birds and small animals playing about together—ferrets and rabbits, cats and birds, weasels and gold mice, stoats and starlings, and as all these are usually enemies, Phyllis was greatly surprised.

She was still more so, when she saw "Spot",

who had appeared from nowhere, go and sit in a basket with a large pained-looking cat.

That's funny," said Phyllis, "he can't bear cats as a rule, especially strange ones."

"Ah, when they come in me they learn to be kind to each other," replied the Old Lady.

A tapping noise was heard outside. "That's Willy the Woodpecker," said the Old Lady; "he always comes at tea-time—let him in. Mabel," and, to Phyllis's surprise, the cat opened the door and in hopped a woodpecker who perched on the Old Lady's shoulder and began to peck crumbs from her hand.

"Now, Horace," she said to a hedgehog who was curled up asleep on the floor, "it's time you called in the mice for their supper—go and make a noise like a cheese."

The hedgehog uncurled himself and scurried to a corner of the room, making a queer little squeaking noise, and a lot of little mice came and begged on their hind legs in a row, after which, they nibbled their cheese.

"When they have finished," the Old Lady told Phyllis, "they will play 'Peep-Corner' with Mabel and my other cat. You may play with them if you like, but it is time you went home now, or your mother will be anxious. Never forget my dear child, always be kind to animals."

When her mother told her she had been asleep in a hammock, Phyllis thought she knew better. But although she searched many times she never again saw the dear Old Lady in the Oak Tree.

WIRELESS PROGRAMME—WEDNESDAY (Feb. 11th.)

The letters "S.B." printed in italics in these programmes signify a Simultaneous Broadcast from the stations mentioned.

ERNEST HUGHES (University College, Swansea). Talk: "Welsh History Quizzes."

Ernest Hughes 1000. *Welsh Festival Music*
WILLIE GAY

"Hob Non Oieu Leuad" ... *D. Protheroe*
"Yr Afon" ... *W. Davies*
R. G. BERRY (Gwilydygarth). "The Welshman's Moods and Tunes." Quartet

O Dore Di
Robert Jones 1000. *Welsh Festival Music*
GLADYS WILLIAMS
Hwasgardd Bwl y Blodau

Ynys y Plant ... *T. Davies*

Codlad yr Eiddydd
Welsh Festival Music
W. MORGAN EVANS

"Y Marchog" ... *Perry*
"Ye Ornest" ... *W. Davies*

WEATHER FORECAST and NEWS
S.B. from London

Major FORBES LEITH. *S.B. from London*

AUSTIN Q. MORFON'S DANCE ORCHESTRA

11.0. Close down

2ZY MANCHESTER. 375 M.

Musical relayed from the Oxford
1.40. *Prize Theatre* (Contra) ... *S. Spurgin*

3.30-4.0. Broadcast for Primary Schools. *Musical*
Raynolds, "An Adventure From the ..."

4.10. **WOMEN'S HALF HOUR** ... *M. H. Haworth* (Contra)

5.0-6.0. **CHILDREN'S CORNER**
5.10.—*Mr. W. Brown* on "The ..."

7.0. **WEATHER FORECAST and NEWS**
S.B. from London

Prof. T. H. PEAR, M.A., B.Sc., "Psychology—How Public Opinion is Formed."
S.B. to all Stations. Local News

Dance Night.
THE PICCADILLY DANCE BAND
Directed by **STANLEY MILLS**

Relayed from
The Picture Picture Theatre.
SYBIL GORDON (Mezzo-Soprano).

8.0. *Dance Music.*
Sybil, Gordon

The Dance on the Lawn ... *Montague*
The Fairy Laundry ... *Phillips*
Fairy Cudlon ... *Molly Carme*
Summer Days and Nights ... *Eric Caudel*

"Come to My Heart" ... *Armstrong English*
Dance Music
S. Gordon

"Bird of Blue" ... *Ed. German* (1)
"The Letter" ... *Gundog* (4)
"Spring Song & Song" ... *Orville Carr*
"Blackbird's Song" ... *Cyril Scott* (10)

"A Birthday" ... *Clara* (15)
Dance Music

9.30. **WEATHER FORECAST and NEWS**
S.B. from London

Major FORBES LEITH. *S.B. from London*
Royal Horticultural Society Talk
Local News

10.5. **HUBERT DAVIES** (Entertainer).

10.20. **Mr. W. F. BLETCHER**, Examiner in Spanish to the U.L.C.I., Spanish Talk

11.0.—Close down

5NO NEWCASTLE. 400 M.

3.45-5.15. **Lillian Rowell** (Contra). *The Station Sextet*

5.15-6.0. **CHILDREN'S CORNER**
6.0-6.20.—*Scholar's* Half Hour: *M. J. Say*
burn, M.Sc., A.L.C. "Flowerless Plants—The Hornet and Typical Pine."

6.45-7.0. **Mr. H. C. PAVSON**, "Beano."

7.1. **WEATHER FORECAST and NEWS**
S.B. from London

7.1. **Mr. H. C. PAVSON**, "Beano."

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International Symphony Concert.

The Music Described by Percy A. Scholes.

OVERTURE TO "THE MASTERSINGERS" (Wagner).

THE *Mastersingers* is Wagner's Comedy and many of us wish that it was. The tragic feeling of *Ring*, the passion of *Tristan*, the religious intensity of *Parzifal* are great things in their way, but—there is only one *Mastersingers*. The Overture is constructed out of fragments from the succeeding Opera and they are as follows:—

i. The noble MASTERSINGERS' theme, mingled with the sense of high tradition and plenty of brass.

ii. The tender DAWN NO LOVE theme representing the growing attraction of the hero and heroine for one another. This is a more expressive theme, lasting but a few seconds (it appears first in FLUTE, then in OBOE, then in FLUTE again and then in CLARINET).

Some violent scales, running downwards, then back up—

iii. The march-like and disguised BANNER OF THE GUILD theme (Brass).

A fairly lengthy passage, made largely out of previous material, follows, and at last we hear—

iv. The broad emotional LOVE CONFESSED theme, beautifully developed by the VIOLINS. Then comes—

v. The IMPATIENCE OF WALTER theme, which is almost a continuation of the preceding figure, and remains, then it, in the hands of the VIOLINS, and—

vi. The initial MASTERSINGERS' theme, put into quicker notes, and almost parodied. It now represents no longer gray bearded solemnity, but youthful merriment—that of the Mastersingers' Apprentices. It is given to the WOOD WINDS alone.

Shortly we reach—

vii. A wonderful combination of the MASTERSINGERS' theme (in the horn instruments) with the BANNER OF THE GUILD theme (in quicker notes than before, and Wood wind, Second Violins, and Violas) and the LOVE CONFESSED theme in slower notes than before, and in the First Violins and Horns. "This is a fine example of effective 'Counter point.' Probably few people whose attention has not been called to this feature of the Overture notice this combination of the three themes, but obviously the Composer intended that they should be noticed."

Thus the piece works on to its stormy conclusion. **ARIA, "THE TERM IS EXPIRED." "THE FLYING DUTCHMAN" (Wagner).**

The legend of the Flying Dutchman tells of a captain who, trying to round the Cape of Good Hope in a storm, swore that he would not let it be his to sail on for ever. The Devil heard, took him at his word, and sent him sailing for Eternity or until he should find a woman who would love him to the death, whichever should be the shorter period, as a legal document would put it.

He has the chance to find the self-renouncing maiden once in seven years, when, for the purpose, he was allowed to set foot on shore.

The Aria now to be heard occurs early in the work, when the Dutchman, one of his seven-year voyagings ended, despairingly leaves his patrol-trodden deck for his brief respite.

THE "SIEGFRIED IDYLL" (Wagner).

In the spring of 1800, on the shores of Lake Lucerne, was born Wagner's son, Siegfried, named after Wagner's great symbolic hero. Shortly afterwards, Siegfried's mother was greeted, on her birthday morning, with a specially written and very beautiful piece of music, the *Siegfried Idyll*. A small orchestra had been secretly collected and rehearsed by Richter, who played the Trumpet part, whilst Wagner, sitting on the stairs, conducted.

It was arrived at Tetschen early in the morning and was played on the staircase leading to the house where they were to be married.

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There is a sorry anecdote about this performance which was so loved and hunted that 1 performance was ventured upon. It is an extract from the Life and Letters of Bay son, forty years music critic.

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A little and Wagner's Wagner correspondence

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to give here the plot of the is founded upon actual of the great master's

and I can enter with the custom of the famous "Peregrine" which is a head of Medusa, which appears the Lippia dei Lippi at Florin and is far har to every visitor to that city.

The Overture opens with

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THE PROGRAMME—THURSDAY.

Continued from the previous page
 He is found to sleep with a spirit music, and shows

... a set of dreams in which sleep.
 ... programmes amongst the Wood W...
 ... to Sir George Grove, who used to
 ... a house for the Crystal Palace Concerts

... to the group
 ... effort
 upon rapid work amongst the Wood W...
 ... instruments and leave it at that

THE BAKOCZY MARCH FROM "FALST" (Berlioz).

There was no Bakoczy March in the first version of *Faust* and the story of its composition.

In 1840 Berlioz was in Vienna. He was to go on to Buda-Pesth. A few days before he left, a friend brought him a volume of Hungarian airs, advising him to work one of them up into an orchestral piece, and so please the Buda-Pesthians. He looked through the book, found a Hungarian tune of disputed origin; it may be a folk-tune, or may be the composition of a certain banamaster named Scholl, wrote a March upon it the night before he left Vienna, and when he got there announced as one of his pieces for the programme of his first concert *Bakoczy March—War Song of the Hungarians*.

There was host-ility, he tells us. Hungarian national feeling was against a foreign composer tampering with a national air—"People dreaded

A newspaper editor even took the trouble to find the address of the copyist who was preparing the band parts for the concert, sought him out and examined the score. He then visited Berlioz—

... and made peace for the *Bakoczy*—

... and went

ALL STATIONS PROGRAMME Relayed from The Royal Opera House, Covent Garden. INTERNATIONAL SYMPHONY CONCERT Third Concert (Second Series).

WAGNER-BERLIOZ PROGRAMME.
 Conductor: BRUNO WALTER.

8.0 9.30

Overture, "The Master-singers"
 Aria from "The Flying Dutchman"
 Siegfried Idyll
 Overture and "Bacchante"
 "Tannhäuser"
 Wotan's Farewell and Fire Music, "The Valkyrie"

Wagner

9.45 10.15.

Overture, "Benvenuto Cellini"
 Dance of the Will of the Wages,
 "Faust"
 Rakoczy March, "Faust"
 Carnival Romanza
 WILHELM RODE (Baritone)

Berlioz

... that's how you can tell a good set of
 ... at first you'll get the first...
 ... with it—such a happiness as you can find
 ... heard! Evidently you didn't look through the score

That Editor heard it to the end at the concert—but only at a second attempt, for the joyous excitement of the audience broke all bounds and when Berlioz' *fortissimo* arrived they out-fortissimoed it, so that the performance had to be begun again.

Berlioz looked up at the box the Editor was in

... and saw him
 ... up and down un-
 ... able to contain himself



BRUNO WALTER.

After that the
 ... March was on

loved *Immortal* he in-
 ... proved on Götter—

... my heart is about
 ... the kind of the

So that's what you call
 ... of a Hungarian air

... the approach

OVERTURE—"THE ROMAN CARNAVAL" (Berlioz).

Here we meet with some of the *Romantic* ... tunes. The plot of the opera is a good deal concerned with the Carnival of ... This overture was written ten years later than the Opera itself, and later still, Berlioz gave it a new version, "Cellini." It has since then been played between the Acts.

At the opening we find ourselves in the midst

In a moment, however, there comes a lovely slow time, given to Con. Aschmann, with slight

Then the VIOLINS take up the slow ...
 ... weaving another one in with it. Further treatment of this time follows.

All this is introductory—an Overture to an Overture, so to speak. At last comes a quick passage (beginning with *Mitten Trampeln*) and with this (and with a change to six-a-bar time) we are plunged into the Overture proper—a lively and brilliant thing, full of the fine and most striking orchestral effects.

The letters "S.B." printed in italics in this programme signify a simultaneous broadcast from the station mentioned.

2LO LONDON. 365 M.

10.20. Tune Signal from Greenwich. The Week's Concert of New Gramophone Records.

3.15 3.45. Transmission to Schools: "Children in Dickens—The Marchbuses," Lecture by J. C. STOBART and R. E. FREY.

6. Time Signal from Greenwich. "More Lotses of O Togo," by C. Rousseau James. Music performed during Afternoon Tea at the Grosvenor. "The Art of the Bure," by Anne I. Spratt.

7.10. (11.10. B.N.S. CORNER: A Poetry Talk by Dorothy Pauling. L. G. M. of the Daily Mail. Zoo Story, "The Walrus and the Tusk," "Honey-suckle or R. Berry" from "Nature Stories," by John R. ...

8.10. Mr. G. ORF A GREENWOOD. The Romance of a Bundle of Rags.

7.0.—TIME SIGNAL FROM BIG BEN WEATHER FORECAST and 1ST GENERAL NEWS BULLETIN. S.B. to all Stations.

FRENCH TALK under the auspices of L. Institut Français. S.B. to all Stations. Talk by the Radio Society of Great Britain. S.B. to all Stations.

The Humours and Curiousities of Parliament. The Houses of Parliament," by an M.P. Local News.

8.0 9.30.—SYMPHONY CONCERT (For further particulars see centre column)

9.30. TIME SIGNAL FROM GREENWICH WEATHER FORECAST and 2ND GENERAL NEWS BULLETIN. S.B. to all Stations. Local News.

10.45-10.15 (approx.).—SYMPHONY CONCERT (continued).

10.15 (approx.).—THE SAVOY ORPHEANS AND SAVOY HAVANA BAND.

from the Savoy Hotel, London. S.B.

11.0. ...

5IT BIRMINGHAM. 475 M.

3.30 4.30. The Station Parlorio Quartet.

WOMEN'S CORNER: Margaret Wicks (Solo Pianoforte), E. D. Burdett, General Interest Talk.

6.30-6.50. CHILDREN'S CORNER: Madeline ... The game We Don't Learn at School.

6.40-6.4. Teens Unlucky. Alex C. ... Talk and Recital on the Works of Handel.

7.0-11.0.—Programme S.B. from London.

6BM BOURNEMOUTH. 385 M.

1.15-5.0. Talk to Women: "Photography," by Miss Pearce. The Wireless String Orchestra. Conducted by Capt. W. A. Pouterstone. Alan Franklin (Solo Pianoforte).

6.0-6.0. CHILDREN'S CORNER.

6.0-6.30.—Scholar's Hall Hour: "Sports and Health," by E. J. Roberts.

6.30-6.45.—Farmers' Talk: "Common Allergies in Cattle," by E. W. ... Baker, M.R.C.V.S., London.

7.0-11.0.—Programme S.B. from London.

5WA CARDIFF. 351 M.

3.0-4.30. Margaret Francis (Soprano). The Station Orchestra.

Conductor: W. ...

1.45-3.5. WAS ...

5.5-6.0. CHILDREN'S CORNER. Mr. J. Kyrie Fletcher. ... Harry Stradling and the Pirates.

7.0-11.0.—Programme S.B. from London.

2ZY MANCHESTER. 375 M.

... Local News Bulletin

Mr. ... Kenarick: "Careers"

Programme S.B. from London.

5NO NEWCASTLE. 400 M.

11.30 12.30. Ella Tomlinson (Solo Violoncello).

3.4 5.10. Pell's Synoposized Five

6.0. CHILDREN'S CORNER

6.4 7.0.—Mr. R. E. Richardson: "Gardens"

Programme S.B. from London

2BD ABERDEEN. 495 M.

3.3 5.0.—The Wireless Sextet. Harrold Crayn (Tenor). Feminine Topics.

6.30 6.0.—CHILDREN'S CORNER.

6.30 6.0.—Farmers' Talk: "Common Allergies in Cattle," by E. W. ... Baker, M.R.C.V.S., London.

7.0-11.0.—Programme S.B. from London

5SC GLASGOW. 420 M.

3.30 4.50.—The Wireless Quartet. ... Depianche (Tenor). Afternoon Topics.

6.10-6.0.—CHILDREN'S CORNER: Weekly Stamp Chat by Uncle Phil. Listen for the Stamp Competitions.

6.4 7.5. Weather Forecast for Farmers.

7.0 7.5. Mr. Charles Davidson. S.B. from Aberdeen.

7.0 11.0.—Programme S.B. from London

A number against a musical stem indicates the name of its publisher. A key list of publishers will be found on page 109.

(Feb. 13th)

of its population. A key list of publishers will be found on page 140.

WIRELESS PROGRAMME—SATURDAY (Feb 14th.)

The letters S.B. printed in blue in these programmes signify a Special Broadcast from the station mentioned.

2LO LONDON. 365 M.

4.0.—1 from Greenwell.
The 2LO Orchestral Programme.
Anne Desmond (Soprano), Margaret French (Soprano), 4 from Barrow, by Margaret French, "Women's Part in Local Government" (1), by a Non-Party Woman.

5.30-6.15.—(CHILDREN'S CORNER). A Family Story by (1) from Greenwell.

6.40-6.55.—"Dignity" (1) by a Non-Party Woman.

7.0.—TIME SIGNAL FROM BIG BEN.

WEATHER FORECAST and 1ST GENERAL NEWS BULLETIN. S.B. to all Stations.

Mr C. WHITTAKER WILSON: "How Our Calendar Was Formed." S.B. to Aberdeen.

Popular Orchestral Programme.

FRYD GWYN (Baritone).

FODEN WILLIAMS (E. Soprano).

MOLLIE SEYMOUR and NELLIE NORWAY (Musical Entertainers).

THE WIRELESS ORCHESTRA.

Conducted by DAN GODFREY, Junr.

7.30.—The Orchestra.

March, "Wassington Grays" (1) from Greenwell.

Overture, "Marmarada" (1) from Greenwell.

"The Hills of Donegal" (1) from Greenwell.

"A Hymn for the Robin Hood" (1) from Greenwell.

Items from his Repertoire.

8.5 (approx.). The Orchestra.

"March of the Little Wooden Soldiers" (1) from Greenwell.

Selection, "Puppets" (1) from Greenwell.

"Nelle Norway" (1) from Greenwell.

Silver Hand Bell Solo, "The Lost Child" (1) from Greenwell.

Mollie Seymour (with Violin).

"The Lull Tree" (1) from Greenwell.

"Welcome, Honey, to Your Old Plantation Home" (1) from Greenwell.

Nelle Norway and Mollie Seymour.

Bucaralla ("The Tales of Hoffmann") (1) from Greenwell.

"Three O'Clock in the Morning" (1) from Greenwell.

8.30 (approx.). The Orchestra.

"For a Tune and Fairy Tale" (1) from Greenwell.

Selection, "The Fire" (1) from Greenwell.

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5IT BIRMINGHAM. 475 M.

4.30-5.0.—"The Fire" (1) from Greenwell.

5.0.—"The Fire" (1) from Greenwell.

5.30-6.0.—(CHILDREN'S CORNER). A Family Story by (1) from Greenwell.

6.30-6.45.—"The Fire" (1) from Greenwell.

6.45-7.0.—"The Fire" (1) from Greenwell.

7.0.—"The Fire" (1) from Greenwell.

7.30.—"The Fire" (1) from Greenwell.

7.45.—"The Fire" (1) from Greenwell.

8.0.—"The Fire" (1) from Greenwell.

8.15.—"The Fire" (1) from Greenwell.

8.30.—"The Fire" (1) from Greenwell.

RAIFER FORECAST and NEWS

11 from London.

Ident. A. E. STIRY, Secretary of the British and Foreign Sevens Society. "Tran."

Instrumental Programme.

STATION (1) from London.

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Florence R.

Notable Work.

"A Mixture of Merriment."

Orchestra.

Three Dances (Henry VIII.)

Local News.

10.0.—THE SAVOY BANDS. S.B. from London.

Local News.

11.0.—Close down.

SWA CARDIFF. 351 M.

4.0-4.30.—Fa Khan and his Orchestra, relayed from the.

5.0.—FIVE O'CLOCK.

6.0.—WEATHER FORECAST and NEWS.

S.B. from London.

Local News.

Light Symphony Concert.

Relayed to "5XX."

ASTRA DESMOND (Contralto).

WILLIAM HESELTINE (Tenor).

THE STATION SYMPHONY.

ORCH. STRA.

Conductor: WILKINSON BRATHWAITE.

Orchestra.

Overture, "The Merry-makers" (1) from Greenwell.

My Treasure ("Don Giovanni") (1) from Greenwell.

With Orchestra (1) from Greenwell.

Symphony, No. 9 ("The Pastoral") in F, Op. 95 (1) from Greenwell.

Allegro non troppo; Andante molto.

Allegro; Adagio; Allegretto.

Astra Desmond.

With Orchestra (1) from Greenwell.

Herbert Brewer (15).

The Plague of Love (1) from Greenwell.

See Fever (1) from Greenwell.

The Wind on the World (1) from Greenwell.

Orchestra.

Suite, "The Crown of India" (1) from Greenwell.

Dance of the Nautch Girls; Minuet.

Warrior's Dance; Interlude; March.

of the Mogul Emperors.

William Heseltine.

With Orchestra (1) from Greenwell.

Mary of Alondra (1) from Greenwell.

Passing Ivy (1) from Greenwell.

I Love Thee (1) from Greenwell.

Orchestra.

Mock Morris (1) from Greenwell.

Two Entrances from "Carmen" (1) from Greenwell.

No. 2 in E Flat No. 3 in D Minor.

Astra Desmond.

"Or la null" (1) from Greenwell.

Mercadante.

(With Orchestral Accompaniment).

Orchestra.

Overture, "The Merry Wives of Windsor" (1) from Greenwell.

7.30.—WEATHER FORECAST and NEWS.

S.B. from London.

Mr E. A. C. THOMSON. S.B. from London.

Local News.

10.0.—THE SAVOY BANDS. S.B. from London.

12.0.—Close down.

2ZY MANCHESTER. 375 M.

7.30-4.30.—Concert of Gramophone Records.

4.30-5.0.—WOMEN'S HALF HOUR. Harry Laraway (Tenor).

5.1-6.0.—(CHILDREN'S CORNER).

7.0.—WEATHER FORECAST and NEWS.

S.B. from London.

Mr F. STACEY LINTOTT, Weekly Talk.

Local News.

A number against a musical sign indicates the name of its publisher. A key list of publishers will be found on page 702.

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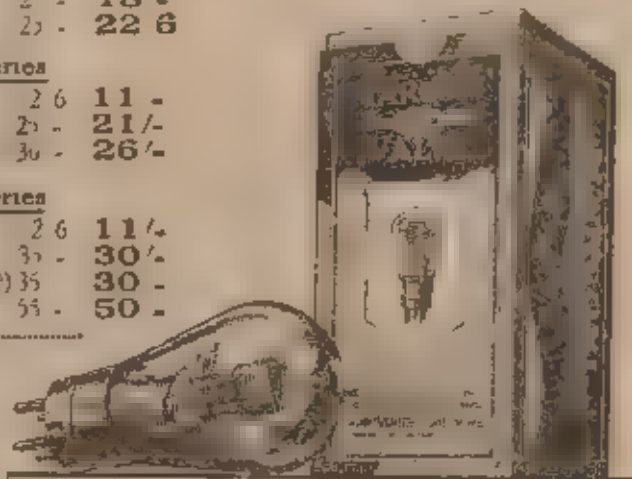
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Early Days in a Spider's Life.

Baby Insects and Their Ways. By Edward C. Ash.*

YOUNG spiders at their baby age are very comfortable, twenty, thirty, fifty, one hundred and fifty, five hundred, and sometimes nearly a thousand babies hatch in a woolly like bag of flocculated silk, real silk—nothing artificial about it—of super quality. All on their own, most young spiders start life in a corner of a window, under the bark of a tree, or on the underside of a leaf.

When quite young and newly hatched, spiders are in some ways very much alike; they have fat, stubby short, shapeless limbs, no transparent glass, with great, deep wrinkles; but quite useless for walking, or anything else. They are bent the wrong way—like people with third class tickets on certain railways, at certain hours. At this age they are helpless, jammed together in a heap.

Bobbing in a Bag.

They are of various colours, often purplish or snow white; silvery green or yellow; their legs are always like crystal glass, but the eyes of different varieties show marked differences.

The eight or six eyes are often just so many tiny red marks, with only the centre two black and eyelike. Newly-hatched Wolf Spiders' eyes appear to have run into each other, forming a patch black, thick line.

Young Wolf Spiders start life in a bag fastened to their mother, bobbing about just clear of the ground. Only when the mother rests does that bag go down—intentionally, of course; all other bumps are accidental.

Within a few hours after hatching inside the bag, the thirty to forty children start energetically changing their skins. Wriggling convulsively, the back splits, and out they come, dragging their new legs from old coverings. For some moments they appear to have sixteen legs each.

A Confusion of Legs.

Their new legs have joints. No longer glass-like, they are of use. For a few days they remain in the bag, with the egg shells dry and shrivelled up, and keep warm. This happens in June and July.

They remain there clasped together—a confusion of legs. They never get cross or angry; there isn't room for rows. They couldn't if they tried. They wouldn't know whose legs they were biting!

The young Wolf Spiders climb on to their mother's back when they leave the egg bag. Each one grabs, each one tries to get "front row of stalls" and, head downwards, clinging for better or for worse.

The Living "Bus."

Their mother tries to make journeys as easy as rotten roads allow; but no County Council or other public authority keeps bent grass above spider bus heights or moves obstacles, and this means accidents.

If a Wolf Spider bus feels hungry and meets another bus, then bucking bronchoes are out of it! The children go off at tangents—some on their own. It's all up on a bucking bus. Hence the hurry to get off. They don't wait until it stops. The children prefer to hide in the grass, or to sit under stones than to ride.

The children return, swinging their legs in circles, goose-stepping. They feel their way with their legs. As they run away they laid a line. Each one follows its own silk back. They are a bit with caution, but climb with great

The mother's legs are ladders, and they are soon on board.

The children never ride on a male. He is

* In a Tink from London.

neither countenanced nor licensed! and you can't wonder at it, for he is small, thin, distinctly neurotic and all jagged edges.

But they will ride on any mother, even some one else's; but it must be a Wolf Spider! Two or three families often ride together, two or three ladders thick.

They keep off her eyes. However crushed no one rides forward. If they get too near her eyes, something frightens them, they draw back humbly and scurry on behind like mad.

A Swedish Head

The long-legged, vanishing-track spider, *Pholcus*, travels about in great style leading her family in her jaws in a silk net. She appears to have a swollen head. Touch her, and the way the children say "Good-bye" is quite a shock. It is "Heigh Presto! We're gone!" and they have!

When spiders and other web builders young ones are different. They do not ride on their mothers back or in her jaws. They go off on tight ropes, delighted! On meeting a sister, or brother, on the same rope, they try and knock each other off.

They seem to play "King of the Castle," and get irritable—each one afraid of the other 150 children; and only one castle! Until they are on it, they don't see the castle, and they don't see the king until they bump up against him, and that king bites!

A good proportion of them make attempts to be king. They all bite; they are all in a hurry to clear!

Ex-lungs hang in clusters, and hurriedly climb up again; it is a strain to hang on a line. No sooner up, than they are down, no sooner down, than they are up!

A Furious "Joy Ride."

This game has advantages. Falling further than intended, they find a fresh castle, and gradually turn out, and go off into the world.

One young spider no larger than two pin heads united, caught a powerfully built fly. The baby web, only three inches in diameter, was perfect in shape and that insect did not improve it! Smash went the web, the fly would have escaped but the young spider leapt on to its tail. Off went the fly, the baby spider "on board," holding on to the rudder, went too. The spider was fastened by a line to the remnants of its web. The fly did not go far. Like the lying boats in the roundabouts, it went round and round at the end of its tether.

An extra fast and furious joy ride made that baby spider say "enough" and no sooner did the fly stop for a breather than Master, or Miss, spider wisely fastened its line directly to the fly's rudder. Then, hurrying to the bows, it attached another line there, and holding this new line well up with one hind leg, it scaled the first line back to the remains of its web, and attached the second line on to the beam.

The Certain Winner.

The young spider sat on the beam the fly, now like a seat of a swing on two ropes, flew round. The tackle might give, so the baby spider went down with the intention, I suppose, of attaching another rope to the fly, but hardly was it on board than that fly made an effort at such speed that the lines snapped, and away they went!

I did not see the rest. I don't know where they went to, I don't suppose they know. I saw them vanish into the sky, but you can imagine the rest. No insect can fly for ever. It has to settle some time, somewhere, and you can be sure that spider won.

"Cutting" Remarks.

The B.B.C. "Pressmen" on Passing Events.

THE Editor of *The Radio Times* has some very ambitious plans for 1925, and he intends to get some of the most distinguished writers of the world to contribute. It came as no surprise, therefore, when, with admiration, he invited me to write a column about anything I liked.

He suggested that it would not be a bad idea if I were to look through the bushel of newspaper cuttings that passed through my hands each day, and pick out one or two for remark.

A Trap for "Pirates."

Drawing out a handful at random, the first that strikes the eye is "Wireless in Yap Island. Now, where on earth is Yap Island? The most serious member of the staff says that it is the silent room of a ladies club.

Talking about Yap, here is another out of a more venerable date which tells a story of an enterprising French tax collector. It was his duty to collect the money for dog licences, and he was of opinion that the number of canine transmitters did not correspond with the number of licences. He hit upon the brilliant idea of going round to every house in his district with a list of those who had paid licences in his hand, and he barked like a dog outside every house not down on his little list. It was amazing to find the number of homes from which there was an answering bark.

Now that seems a very fine scheme for those wireless pirates who listen without taking out licences, and then send in letters criticising the programmes.

Why should not Captain Eekersley invent some design whereby it would be possible to go outside a house with a portable transmitter and locate people with wireless sets and no licences? It would be an easy matter for the engineers (as they have not much to do to find out who had licences and who had not.

A Doubtful Rhyme.

The new high-power station at Daventry does not seem to be going ahead as quickly as some members of the public would like.

I believe that the real reason is that the programme department have not made up their minds whether Daventry rhymes with "have entry," or whether it should be pronounced "Daintree," to rhyme with Antree.

Personally, I hope that the latter pronunciation will be adopted, because it would be a first-class name for the Grand National Station which we hope Daventry will become.

Why is it that when anyone mentions the name "Wigan," people smile? I have been in Wigan and never saw much to laugh about, but there are evidently good people there, for the Wigan Board of Guardians have installed a wireless set in Buhage Hospital!

Broadcasting Bilingualists.

Happy thought! Why should not the B.B.C. install a microphone in Billingsgate Fish Market and broadcast specimens of the language employed there—S.B. to all Stations, except Charing Cross and Waterloo—(where they have sufficient language of their own over the even tresses of the trains)?

Apologies the recent concert down a mine in Leeds, a Sheffield correspondent writes suggesting that a few more artists should be sent down a mine without having a microphone there!

Wonderfully enterprising people, the B.B.C. I see from the papers that they are hanging a magic lantern up in their studio for radio drama. Somehow or other, one wishes that it could have been possible to have those trans-

The Magic of the Microphone.

Perfecting the Mechanical Ear. By P. P. ECKERSLEY.

IN this article I will attempt to define in general terms the *modus operandi* of and the difficulties inherent in what is termed the "Microphone."

As a matter of fact, a new term is wanted for the device which converts varying air pressures (sound) into correspondingly varying electrical pressures. The term Microphone was first used for a "casual contact" affair, which is in common use to-day on the ordinary telephone. Later, wire telephone engineers came to call this thing we talk into "the Transmitter."

By its derivation, obviously the term Microphone cannot embrace all those devices which convert sound to electrical vibrations, and the term Transmitter has been so largely used in connection with the apparatus that creates and radiates mutually modulated ether waves, that neither will adequately fulfil the necessary generic quality required in an all-embracing term.

"Pick-Up Devices."

The Americans have evolved "Pick-Up Device" a clumsy term, but one which I think merits the *habeo de manu*.

"Pick-up devices" divide themselves into two general classes: (a) for uses where intelligibility of speech is alone the criterion of their performance; (b) for broadcast purposes where they can only finally be described as perfect when, if associated with a perfect "reproducer," they give a reproduction undetectable from the original.

Absolute perfection is required in category (b), and it may be interesting to see what exactly is the problem, how it is solved in certain cases, and what still remains to be done.

The ears are capable of giving to the human brain the sensations of hearing when compressions and rarefactions of the contiguous air impinge upon them. We say we "hear" when the air around us is beaten up into little compressions and rarefactions around us. We say we hear a note when these waves are regular, when reducing it down to something slow and understandable, a compression is followed by a rarefaction and then a compression, and so on at regular intervals. We say we hear a noise when a complex jumble of rarefactions, compressions, and so on, swirl around our ears.

Waves on a Blanket

Turning to analogy, regular waves are formed on the surface of a blanket laid on a table. When we shake one end of the blanket regularly up and down (a note)—a jumble of waves, but still waves—are formed, when we shake the blanket anyhow—now fast, now slow, now jerked, now moved smoothly (a noise).

The extraordinary quality of a note is that it can be heard as such over a great gamut of frequencies. The human ear can hear a note of the order of 35 a second, and such a note comes to us from the largest pipe of an organ. The highest note we can hear may be of the order of 15,000 vibrations a second. This note is seldom brought to our notice fundamentally, but really "tones" from violins and other string instruments.

The bat squeak is an example of a note of a very high frequency.

have the faculty of hearing even higher notes than human beings, and, I believe, that Galton produced a whistle which was audible to human beings but which created quite a furor among the local dogs.

The gamut which we have to consider in a practical sense is from, say, 30 a second up to 10,000. A piano scale is from about 30 up to 4,000, but the character of the higher notes would be somewhat lost if we cannot hear the overtones up to 10,000.

When we draw the bow of the violin across the gut, the instrument gives out not only, say, its fundamental of 1,000, but also other notes of 4,000 and even 8,000; the latter being overtones or multiples of the fundamental 2,000. To give character then, to voices and music, we must consider the whole gamut from 30 to 10,000.

Now, it would appear at first sight that for our ideal "pick-up device" we must have something which will respond to vibrations of 10,000 and to 5,000 and to 500 and to 50, or to 30 or to any other frequency between the limits of the gamut.

It is not necessary, however, to have a "pick-up device" which responds equally over the whole gamut, because one can correct against certain definite known laws; but it is necessary to have a device which does not give sudden responses to certain bands of frequencies here and there, up and down the scale.



The ideal, therefore, of aperiodicity must be aimed at, although it matters not fundamentally whether the response curve is straight or curved to a known law—we can correct against regularities.

In all "pick-up devices" there is a moving part, which is caused to move by the impinging air waves, and it is interesting that in our search for aperiodicity we must eliminate any vibrations in the surrounding mechanism. Thus, people are sometimes inclined to try the virtues of flame microphones or photo-electric devices, little realizing that their performance is not measured by the particular method adopted to create electric impulses by moving armatures, but rather by the mechanical methods adopted to secure faithful and smooth response over the whole gamut.

Two Useful Types.

It is interesting to know that there is a great deal in the method of support to which a microphone is attached, and there is in the choice of method to secure a "sound electricity" converter. Anything will give a result, so few devices are worked out to the last degree of perfection that gives a good result.

At the B.B.C. we use mainly two types of "pick-up device," one manufactured by the Western Electric Company, and the other the invention of Mr. Sykes, an Englishman. The latter was developed and perfected by Captain Round, of the Marconi Company.

The ideal of aperiodicity in the former instrument is achieved by using an ordinary casual contact microphone attached to a metal diaphragm, which is aperiodic for all practical purposes by being given a periodicity above the upper practical limit of the audible scale. The diaphragm is in resonance, that is to say, with impulses of perhaps 12,000, but anywhere below this frequency it gives aperiodicity. The instrument is robust, compact and easily handled.

The Carbon Microphone.

The Round Sykes magnetophone relies for its action upon the movement caused by the impinging air on a diaphragm, which is really an annular coil of wire in a magnetic field. "A certain looseness" is achieved by backing this flat signal coil by thin paper and by letting it hang loosely in the space provided between steel pole-pieces. Vaseline and cotton-wool go to complete an instrument which represents the ideals of performance and simplicity. In both devices care is taken to suspend the moving parts freely so that the armature alone

The ordinary carbon microphones of everyday use relies for its action upon a relatively extreme sensitivity to only that small band of frequencies which give speech and intelligibility. This enables the designer to construct an extremely practical and sensitive instrument.

With broadcast instruments where the qualities of resonance are done away with, the designer has to use amplification systems to give the electric impulses the same value as directly by the ordinary microphone of everyday use.



Wife: "Well, if that's Captain Eckersley speaking, I can't understand a word he says."
Husband: "My dear, you're looking at the wrong programme. This is a bazaar sale."



Sensitivity

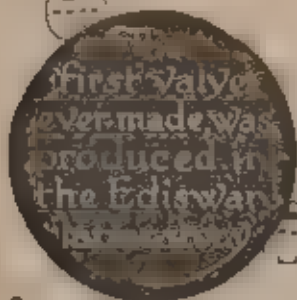
THE perfect valve is sensitive yet strong. You can rely on its reception, and you needn't be too nervous about its filament. Treat it fairly and it will serve you faithfully. That's the principle of an Edison Valve. It is designed for perfect reception over long or short ranges — thirty years' experience is embodied in every bulb. It is built for long life in every day

conditions—deft fingers assure an unusual degree of strength in the assembling of filament, grid and anode. Every valve leaves the works on its own merits—it's tested before you see it.

Ediswan Valves will bring the best out of your wireless set—get some on the way home and enjoy better programmes from to-night onwards. All dealers sell them.

You will be interested in our booklet "The Thermionic Valve." It's free—send for a copy.

THE EDISON SWAN ELECTRIC CO. LTD.
QUEEN VICTORIA ST. LONDON, E.C.4



EDISWAN VALVES

... and you stand, I can
... every so often, at
... in ... Edison Swan
... the ...
... of Edison's
... can be seen.

Reduction in Prices

of all types of

B.T.H. RADIO VALVES

Effective February 2nd., 1925

THERE are no better valves in all the world than B.T.H. Valves—and few (if any) as good. The substantial reduction in prices noted below will make the advantage of using B.T.H. Valves even more evident than it was before.

TYPE	CHARACTERISTICS	OLD PRICE	NEW PRICE
GENERAL PURPOSE TYPES			
R	Filament Voltage.....4 Volts	12 6	11 0
	Filament Current.....0.7 Amp		
	Max. Plate Voltage.....100 Volts		
B 3	Filament Voltage.....1.8 Volts	21 0	18 0
	Filament Current.....0.35 Amp		
	Max. Plate Voltage.....80 Volts		
B 5	Filament Voltage.....3 Volts	25 0	21 0
	Filament Current.....0.06 Amp		
	Max. Plate Voltage.....80 Volts		
POWER AMPLIFYING TYPES			
B 4	Filament Voltage.....6 Volts	35 0	30 0
	Filament Current.....0.25 Amp		
	Max. Plate Voltage.....120 Volts		
B 6	Filament Voltage.....3 Volts	35 0	30 0
	Filament Current.....0.12 Amp		
	Max. Plate Voltage.....120 Volts		
B 7	Filament Voltage.....6 Volts	37 6	32 0
	Filament Current.....0.46 Amp		
	Max. Plate Voltage.....120 Volts		

Fit B.T.H. Radio Valves and make sure of good results

Advertisement of The British Thomson-Houston Co. Ltd.



Leeds—Bradford Programme.

2LS 346 M. 310 M.

Week Beginning Sunday, February 8th.

SUNDAY, February 8th

8.15-9.00. Programme S.B. from London.

10.0-10.30. Programme S.B. from London.

MONDAY, February 9th, and SATURDAY,
February 14th

1.30-1.45. Programme S.B. from London.

2.45-3.00. Programme S.B. from London.

3.15-3.30. Programme S.B. from London.

3.45-4.00. Programme S.B. from London.

4.15-4.30. Programme S.B. from London.

4.45-5.00. Programme S.B. from London.

5.15-5.30. Programme S.B. from London.

5.45-6.00. Programme S.B. from London.

6.15-6.30. Programme S.B. from London.

6.45-7.00. Programme S.B. from London.

7.15-7.30. Programme S.B. from London.

7.45-8.00. Programme S.B. from London.

8.15-8.30. Programme S.B. from London.

8.45-9.00. Programme S.B. from London.

9.15-9.30. Programme S.B. from London.

9.45-10.00. Programme S.B. from London.

10.15-10.30. Programme S.B. from London.

10.45-11.00. Programme S.B. from London.

11.15-11.30. Programme S.B. from London.

11.45-12.00. Programme S.B. from London.

12.15-12.30. Programme S.B. from London.

12.45-1.00. Programme S.B. from London.

1.15-1.30. Programme S.B. from London.

1.45-2.00. Programme S.B. from London.

2.15-2.30. Programme S.B. from London.

2.45-3.00. Programme S.B. from London.

3.15-3.30. Programme S.B. from London.

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8.15-8.30. Programme S.B. from London.

8.45-9.00. Programme S.B. from London.

Special Announcement

PRICE REDUCTION

IN

Mullard Master Valves

Price Reduction.

FROM the 2nd of February the following prices for MULLARD MASTER VALVES will come into force, enabling ALL valve users to obtain these wonderful valves at reduced prices.

MULLARD H.F. & L.F. Single
Ring Bright Filament Valves 11/- each

MULLARD H.F. & L.F. Double
Ring Dull Filament Valves:
Type D.3 for Accumulators 18/- each

Type D.06 for Dry Cells 21/- each

MULLARD Power Valves:

D.F.A.0. - - - 26/- each

D.F.A.1. - - - 30/- each

D.F.A.2. - - - 26/- each

D.F.A.3. - - - 32/- each

D.F.A.4. - - - 30/- each

MULLARD ORA and RA - 11/- each

WHEN YOU BUY, EMPHASISE

Mullard

THE MASTER VALVE

Obtainable from all Electricians, Wireless Dealers, Ironmongers, etc., etc.

Advertisement—The Mullard Radio Valve Co., Ltd. (R.T.),
Nightingale Works, Nightingale Lane, Batham, S.W.12.

PELMANISTS WIN PROMOTION.

Great Opportunities in Business, Commerce, and Industry
For Men and Women with Scientifically Trained Minds.



Jerome K. Jerome.

THE fact that the Business Tide is at last turning in the right direction has led to an increased demand for Pelmanism.

In every direction opportunities of advancement are opening for men and women with trained minds.

Competition is so keen to-day that you also must train your mind if you are to take full advantage of these opportunities. This is where Pelmanism comes in. As Jerome K. Jerome says Pelmanism won't turn you into a genius, and it won't put more brain into you than you have got, but—

It will enable you to make full use of the brain you have been given.

Mr John Foster Fraser says exactly the same.

"Pelmanism," he writes, "will not make the dunce into a statesman, but it will and does provide a plan, whereby we can make the best of our qualities."

These statements are confirmed by the letters which reach the Pelman Institute daily from men and women who have taken the Course. This evidence shows that Pelmanism is just what men and women require in order to

- increase their efficiency,
- add to their earning power,
- qualify for higher positions,

and make the fullest possible use of their opportunities in Business, Trade, Commerce and the Professions.

An Engineer writes: "Two months ago I applied for a situation stating I was Pelman trained. I was appointed out of a number of applicants, with 100 per cent. increase in pay."

A Solicitor writes that when engaging a Secretary some months ago an applicant stated that an estimate as to her position. "I engaged her on the spot," he adds, "and my decision has been more than justified."

An Assistant Works Manager states that he has had a promotion with a 40 per cent. increase.

A Clerk states that Pelmanism has enabled him to take the First Place in his examination with the Civil Service.

A Shop Assistant reports that Pelmanism has made him a new being. His salary has been increased and his sales have increased. Moreover he has developed self-confidence—a quality formerly lacking in his case.

A Clerk states that he has been promoted to a very large position in a very large firm.

A Pelmanist engaged in Marine Insurance writes: "I have just obtained a new appointment with an income of about £1,000 per annum. My present income is about £400—increased at one jump."

A Shorthand Typist writes that she has been promoted twice in six months. "If it had not been for Pelmanism," she says, "I should never have got on so well."

A Clerk writes that Pelmanism has enabled him to do better work and to work more accurately and to gain more promotion. Result—an increase in salary.

A Salesman reports that his salary has increased.

A Cashier directly ascribes to Pelmanism the fact that his salary is 300 per cent. greater.

A Surveyor writes: "Pelmanism has put me in order and set me on the right track. I wish you could reach the many who are in the same position."

A Builder says that since taking up Pelmanism he is doing as much work in one day as he used to do in one week.

An Ex-Serviceman reports that he has passed the Civil Service examination for permanent Government Post. He attributes this result to his Pelman training.

A Manager says that he has had a 100 per cent. increase in salary.

A Doctor says that he has increased his practice.

A Mining Engineer writes that he has been promoted with an increase of £20 a week.

A Shopkeeper reports that since taking the Pelman Course he has doubled his business.

A Dental Surgeon states that a Pelmanist has increased his income by 50 per cent.

A Shop Assistant reports that she has been promoted and her commission has increased.

A Telegraphist states that he has secured his present appointment by the Pelman system.

A Designer and Draughtsman reports that he has increased his income by more than 100 per cent. due to increased efficiency.

An Accountant reports that he has had a substantial increase in salary.

A Works Clerk states that he has banished his worries and given form to his ideas.

An Electrician states that he has gained a substantial rise in wages.

A Manager states that he has been promoted to a position with much higher emoluments.

A Theological Student says that Pelmanism helped him to pass an Examination in Church History.

A Saleswoman reports that she has increased her sales in twelve months.

A Civil Servant reports an increase of 20 per cent. in salary on promotion.

A Teacher states that she has been promoted to a higher position.

A Journalist reports an increase in salary.

A Lady Student says that she has been promoted.

She attributes this to her Pelman training.

An Artist writes that he has been promoted.

He had 100 per cent. increase in salary.

A Farmer states that he has been promoted to a higher position.

He attributes this to his Pelman training.

Should you wish to know more about the system that produces results so remarkable fill up the adjoining Coupon and post it to-day to the Pelman Institute, 85, Pelman House, Bloomsbury Street, London, W.C.1. By return you will receive full and free particulars of the Pelman Course and you will be shown how to secure an special terms.

Write or call to-day.

THE NEW HOBBY.

Half-Hours of Pleasure and Profit with the "Little Grey Books."

Pelmanism has undoubtedly become the New Hobby with men and women who desire to "get ahead in life."

Thousands of readers are spending pleasurable and profitable half-hours at the present time with the "Little Grey Books" by the Pelman Institute.

Pelmanism, says the celebrated actress, Miss Lillah McCarthy, "is now my Sunday recreation. After this pleasant exercise I feel braced up, ready for my week's work. I am sure I shall be able to do my best. That is the secret I have learnt from Pelmanism—it makes you do your best; and moreover, it makes your best better than you thought it possible to be. I am now Pelman enthusiast, and am prescribing my remedy wherever and whenever I encounter a friend who would be better for it—there are many who would."

Pelmanism, she adds, "is a most absorbing game which each player can learn for himself or herself. At any convenient moment one may take up the Little Grey Books as a real mental recreation. In my Pelmanism does more than educate in the

It recreates the mind, fills one with a new energy for work, stimulates one to a greater determination of will-power, and increases the capacity for concentration."

Despite the wonderful results it produces, Pelmanism takes up very little time. You obtain the full benefit of the system by devoting

half an hour daily in hour every other day.

This most pleasant, relaxing, and the

books are printed in such a handy size that you can

carry one of them in your pocket or bag, and study

in the train, bus, or tube, or in the evenings at

home. Don't miss the great opportunity given you to-day to secure Pelman training on specially

low terms. Post off the coupon printed below to-day, and by return you will receive gratis and post free—

1. A copy of "The Efficient Mind," which contains a full description of the Pelman Course.

2. Interesting letters from men and women of every trade and profession, stating what Pelmanism has done for them.

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By return you will receive full and free particulars of the Pelman Course and you will be shown how to secure an special terms.

Write or call to-day.

All Correspondence is Confidential.

Liverpool Programme.

6LV 315 M

Week Beginning Sunday, February 8th.

SUNDAY, February 8th.

10.30 } Programmes & B. from London

MONDAY, February 9th.

11.0-12.0. Military Concert
 1.30-4.30. The Bata and his Orchestra, relayed from the Scala Super
 5.50-6.30. CHILDREN'S CORNER
 7.0-10.30.—Programmes & B. from London

TUESDAY, February 10th.

4.0-5.0.—The "State" Orchestra, Liverpool
 and relayed from the States
 6.30-7.0. CHILDREN'S CORNER
 7.0.—WEATHER FORECAST and NEWS
 S.B. from London

MUSIC BY JACK KERNAN S.B. from

LIVERPOOL PHILHARMONIC SOCIETY'S EIGHTH CONCERT

Relayed from

The Philharmonic Hall

Conductor—EUGENE COHEN

7.30.—Some remarks on the works to be performed

7.45.—Overture, "Prometheus" Elgar 1.

Military Symphony Haydn

8.45. ALBERT E. BATES. The

Dear Love, Remember Me

At a Garden in Brittany

The Little One-way Clock

8. PLOWY HILL (Solo) 1.

The A. Flat Op. 14

The No. 2014 C. Minor

The No. 214 B. Flat Major

The No. 214 B. Flat Major

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Featherweight Headphones



DO not deny the kiddies the pleasures of Broadcasting. A pair of **Brown Featherweight** headphones weighs but six ounces, including cords, and costs only 25/- per pair. They fit the head easily and comfortably. For children particularly they are ideal. Even the grown-ups appreciate their extreme lightness and sensitivity.

4,000 ohms. **25/-** per pair.

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S. G. Brown, Ltd.,
 Victoria Rd., N. Acton, W. 3.

Showrooms
 33 Mortimer Street W. 1.
 15, Moorgate, L. 1.
 67, High St., Southamp. 1.

FREE PATTERNS

AND TRANSFERS OF

Madame Butterfly UNDERWEAR SET

Given with

WOMAN'S LIFE

Commencing with issue dated Feb. 7.

NOW ON SALE: 3d.

This remarkable reception of the U.S. Station at Cambridge (MASS.) in Coventry is further proof of

A.J.S.
super-efficiency

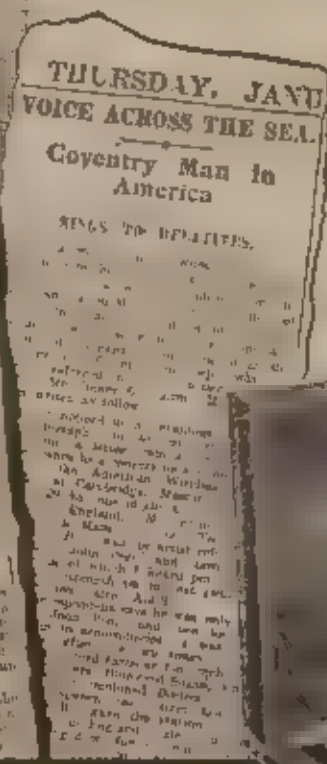
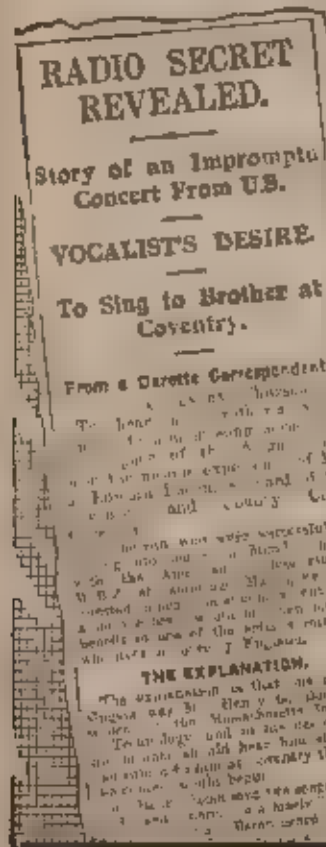
C. Mr. S. Edward Bacon, Steward of the Coventry and County Club, received word by cable that his brother, a vocalist, would broadcast from the American Station W B Z (Cambridge, Mass.) on December 29th. Mr. Bacon, using a 4 tube A J S Receiver, promptly got in touch from Coventry and "heard both songs perfectly at loud-speaker strength."

Although "conditions
were not good"—
**He heard "perfectly
at loud speaker
strength"** on his
A.J.S. 4-VALVE RECEIVER

THE A.I.S. "UNITOP" CABINET RECEIVER

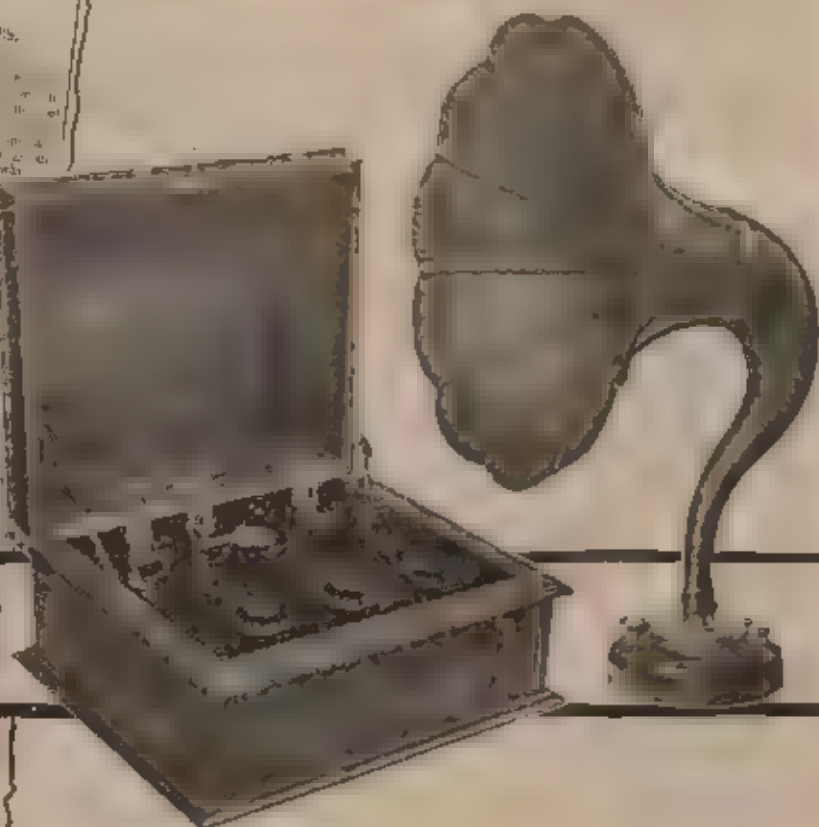
624 10 0 30 minutes

A.L.S. LOUD SPEAKERS

[illegible]

A. J. STEVENS & CO. (1914) LTD.,
WIRELESS BRANCH, WOLVERHAMPTON.

Plant	Leaf	Winged Call Sign	SR ²	Comm.	Repetition, Wolve haustian
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Nottingham Programme.**5NG 322 M.****Week Beginning Sunday, February 8th.****SUNDAY, February 8th.**

10.5.30. *Programme S.B. from London*
 8.0-10.30.

MONDAY, February 9th.

3.30-4.30. *The Sea*
 tra. M. J. J. Director, Admiralty
 4.30-5.0. *WOMEN'S TOPICS*
 5.15-6.0. *CHILDREN'S CORNER*
 6.15-6.30. *Teens Corner*
 6.45-7.0. *Start on Trip*
 7.0-7.30. *Mr. A. R. H. S. C.*
 7.0-10.30. *Programme S.B. from London*

TUESDAY, February 10th.

3.30-4.30. *The Sea*
 tra. M. J. J. Director, Admiralty
 4.30-5.0. *WOMEN'S TOPICS*
 5.15-6.0. *CHILDREN'S CORNER*
 6.15-6.30. *Teens Corner*
 6.45-7.0. *Mr. Edward Leeing, H.A.*
 7.0-10.30. *Programme S.B. from London*

WEDNESDAY, February 11th.

11.30-12.30. *Gramophone Records of the Week*
 4.30-5.0. *WOMEN'S TOPICS*
 5.15-6.0. *CHILDREN'S CORNER*
 6.15-6.30. *Prof. R. Pears, M.C., M.A., Talk*
 and Telephone Wireless Discussion with
 Listeners on "Economics and Welfare"
 7.0-7.30. *Programme S.B. from London*
 7.30. *"HIAWATHA'S WEDDING FEAST"*
 (Coleridge Taylor)
THE NOTTINGHAM SACRED HARMONIC SOCIETY
 Relayed from The Albert Hall
ARTHUR JORDAN (Tenor)
FREDERICK MOUNTNEY (1st Violin)
ALFRED AND CHORUS OF
NEWLY FORMED LUTHERAN CH.
ALLEN GILL
 8.0-10.30. *Programme S.B. from London*

THURSDAY, February 12th.

3.25-3.45. *Mr. T. G. H. S. C.*
 3.45-4.45. *Scala Picture*
 4.45-5.0. *CHILDREN'S CORNER*
 5.15-6.0. *Teens Corner*
 6.15-6.30. *Mr. A. R. H. S. C.*
 6.45-7.0. *Mr. A. R. H. S. C.*
 7.0-10.30. *Programme S.B. from London*

FRIDAY, February 13th.

3.30-4.30. *Mr. A. R. H. S. C.*
 4.30-5.0. *WOMEN'S TOPICS*
 5.15-6.0. *CHILDREN'S CORNER*
 6.15-6.30. *Teens Corner*
 7.0-7.30. *Programme S.B. from London*

Popular Concert.

By permission of the Watch Committee
 and Lt.-Col. F. Brooke, D.S.O., M.C.
 Conductor
JOHN GEORGE HEWETT
 (Late Bandmaster, Duke of Cornwall
 Light Infantry)
HILDA WARR (Soprano)
JOHN WHITEHORN (Baritone)

7.30. *Band*
 March, "Under the Azure Banner"

"Overland Bridge"
 Sullivan (11)

(Continued in column 1, page 331)

**A.R. 110-111**

Following the recog-
 nised "Dragon"
 principle of construc-
 tion in every detail the
 New Junior
 provides the improved
 design of the sound
 cone and is adapted to a
 wide range of electro-
 plated brass plates

Better Radio Repro-
 duction

Test ANY Loud Speaker against this 50/- AMPLION

TEST any "Senior" Loud Speaker other than an AMPLION against this "New" Junior, and see how easily you may enjoy "Better Radio Reproduction," at lesser cost. For this 50/- AMPLION is actually a "Senior" Loud Speaker in performance both in volume and in tonal quality, which are delightfully natural and free from any evidence of "mechanical harshness."

There is also the "New" Junior-de-Luxe at 65/-, embodying the same exclusive features as the above model, but provided with a wood trumpet of unique design. In the horn, either oak or mahogany, the panels are united by a series of metal ribs affording an assembly of particularly strong construction and attractive appearance.

The "New" Junior

The
World's
Standard

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Wireless
Loud
Speaker

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Consequent upon the reduction in the prices of **MARCONI VALVES** the following reductions in the prices of GECOPHONE Valve Sets will operate as and from February 2nd, 1925

CAT No	DESCRIPTION	OLD PRICE	REDUCED PRICE
BC. 3000	Single Valve Set (DER Valve)	£ 8 0	£ 6 15 0
BC. 3001	Ditto but with Headphones, LT and HT Batteries, &c.	10 7 0	8 17 0
BC. 3050	Single Valve Set (DE3 Valve)	7 17 0	7 8 0
BC. 3051	Ditto but with Headphones, LT and HT Batteries, &c.	10 5 0	10 0 0
BC. 3250	2-Valve Set (Flat model), Det and LF (DER Valves)	9 17 0	9 6 0
BC. 3251	Ditto with Headphones, LT and HT Batteries	13 0 0	12 14 0
BC. 3255	2-Valve Set (Flat Model), Det and LF (DE3 Valves)	11 1 0	10 13 0
BC. 3256	Ditto but with Headphones, LT and HT Batteries	14 10 0	13 2 0
BC. 3200	2-Valve Cabinet Set, Det and LF, DER Valves, complete with Headphones, LT and HT Batteries	18 10 0	18 4 0
BC. 3205	Ditto but with DE3 Valves	19 0 0	18 12 0
BC. 2001	2-Valve Cabinet Set, HF and Det (R5 Valves), complete with Headphones and LT and HT Batteries	20 3 0	19 17 0
BC. 2002	Ditto but with DER Valves	19 5 0	19 0 0
BC. 3350	3-Valve Set Det and 2LF (R5 and DE5 Valves)	8 3 0	17 18 0
BC. 3351	Ditto but with Headphones, LT and HT Batteries	23 15 0	23 7 0
BC. 3355	3-Valve Set, Det and 2 LF (DER and DE6 Valves)	18 0 0	18 1 0
BC. 3356	Ditto but with Headphones, LT and HT Batteries	23 7 0	22 16 0
BC. 3300	3-Valve Cabinet Set Det and 2LF (R5 and DE5 Valves), complete with Headphones, LT and HT Batteries	28 0 0	27 12 0
BC. 3305	Ditto but with DER and DE6 Valves	27 10 0	27 1 0
BC. 2010	4-Valve Cabinet Set de Luxe	11 0 0	11 0 0
BC. 3400	4-Valve Combination Set BC 200 and BC. 2580	31 2 0	33 2 0
BC. 2060	5-Valve Cabinet Set	37 10 0	36 12 0
BC. 2585	Single Stage Amplifier	5 7 6	5 6 0
BC. 2580	2 Stage Amplifier	11 0 0	11 4 0

NOTE.—THE ABOVE PRICES INCLUDE ALL ROYALTIES.

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Plymouth Programme.

5PY 328 M.

Week Beginning Sunday, February 8th.

SUNDAY, February 8th.3.0-4.30. } Programmes S.B. from London.
8.0-10.30. }**MONDAY, February 9th, and WEDNESDAY, February 11th.**3.30-4.30.—Ernest Manning and his Orchestra, relayed from the New Palladium Cinema.
Vocalist, Dorothy Lincoln (Supremo).

5.0-5.30.—WOMEN'S TOPICS.

5.30-6.30.—CHILDREN'S CORNER.

7.0-10.30.—Programmes S.B. from London.

TUESDAY, February 10th.

3.30-4.30.—Ernest Manning and his Orchestra

5.0-5.30.—WOMEN'S TOPICS

5.30-6.30.—CHILDREN'S CORNER

6.45-8.55.—Mr Eric J. Patterson, M.A. (Cantab).
"The Problem of Adult Education in the South West of England"

7.0-11.0.—Programmes S.B. from London

THURSDAY, February 12th.

4.0-5.0.—The Blue Lagoon Sextet Dance Band.

5.0-5.30.—WOMEN'S TOPICS.

5.30-6.30.—CHILDREN'S CORNER.

6.45-8.55.—Mr Eric J. Patterson, M.A. (Cantab).
"The Problem of Adult Education in the South West of England in the Met."

7.0-11.0.—Programmes S.B. from London

FRIDAY, February 13th.

3.30-4.0.—Talks to Schools: Miss M. Raymond, Principal of Devonport High School for Girls, "St. Valentine and St. Valentine's Day Customs." Musical Interlude: Mr T. R. Whitley, "How to Improve a Tune."

4.0-5.0.—Albert Furbush and his Trio, relayed

5.0-5.30.—WOMEN'S TOPICS.

5.30-6.30.—CHILDREN'S CORNER.

6.45-8.55.—Mr Eric J. Patterson, M.A. (Cantab).
"The Problem of Adult Education in the South West of England in the Met." Part 2.

7.0-11.0.—Programmes S.B. from London

Light Orchestral Programme.

7.30.—THE STATION ORCHESTRA.

Overture: "The Merry Widow"

Selection: "Serenade" (Mozart)

7.45.—IAN SHEPHERD (Soprano).

Song: "The Old Fashioned Maid" (Phillips)

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Song: "The Old Fashioned Maid" (Phillips)

Song: "The Old Fashioned Maid" (Phillips)

**Franklin's Gift to Radio.**

TO all wireless enthusiasts, Benjamin Franklin should be remembered as the first man ever to attempt the extraction of electricity from the atmosphere. His early kite flying experiments effectively demonstrated that in very damp weather when the atmosphere was heavily charged with electricity a strong electrical current ran down the wet string.

To-day, in this country there are more than a million Benjamin Franklin's busily engaged night after night in extracting electrical energy from the ether and converting it into enjoyment. Some do it by means of simple Crystal Sets and others by means of more efficient Valve Sets. Of all the Valve enthusiasts, by far the greater proportion are Cosmor sets—for there is no Valve more popular in Great Britain.

With their arched filaments and their electron retaining hood-shaped Anodes, the P1 and the red-topped P2 are a familiar

sight in every Wireless Shop. And now comes the Cosmor Wuncell—an entirely new type of Diode Emitter—which bids fair to attain an even greater measure of popularity. In this short space we cannot tell you its many advantages, how its filament, when glowing, is all but invisible, how volume for volume it is fully the equal of our own Night Emitters—how in current consumption and long life it is unexcelled. All these points are fully covered in a large interesting Folder, which your own dealer can give you free, or which we will send you on receipt of a postcard.

Reduction in Price:

From Feb. 2nd all Cosmor Valves have been reduced in price. The following are the new prices:

P1 11/- Wuncell Dull / W1 18/- WR1 20/-
P2 11/- Emitters - - / W2 18/- WR2 20/-

Cosmor Valves



In all these homes.

The "Supratone" Amplifier.

Up and down the country Broadcasting has brought joy into the homes of the people. This 2-valve amplifier enables a loudspeaker to be used from your present crystal or valve set. It is a high-class instrument, incorporating 2 SUPRA transformers and 2 MICROSTATS, with master pull-push switch. Negative grid bias and a modulating resistance add to the full, rich tone.

Here is a single set complete with:

2 A valves	£4 0 0
6-volt 8-amp. Kingsway Accumulator	1 2 0
40 volt PYRAMID H.T. Battery	1 10 0
Loudspeaker (C.A.V., Tom-Tut or Sisking Diskie)	1 10 0

TOTAL £8 10 0 ONLY

When connected to your present set, the above outfit will give first class results. If a larger accumulator or loudspeaker is desired, they can be selected from our latest catalogue. In event of local dealer being unable to supply kindly communicate with us direct.

THE BIJOUPHONE.

If you haven't a set, the Bijouphone offers finest value procurable. The distinctive features of this wonderful little crystal set place it miles ahead of any competitor. Model No. 1 is for ordinary broadcasting, and Model No. 2 gets the High-Power Station as well.

Distinctive Features.

Variable tuning. Moulded ebonite top and base. Enclosed Shave has air crystal and point. Nickel tuning screws.

No. 1 7/6. No. 2 10/.

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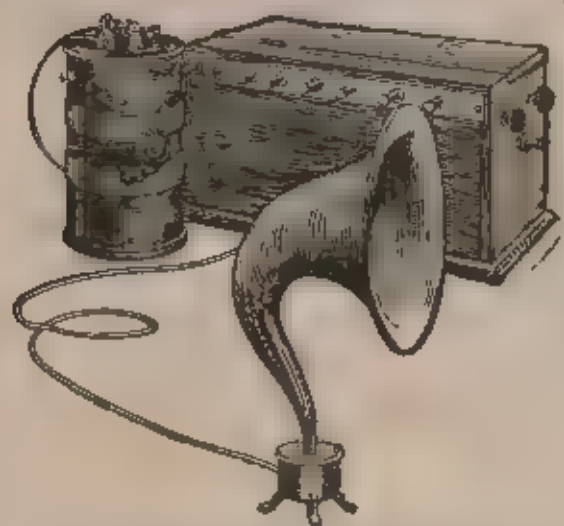
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*The Perfect Battery
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IN EBONITE CASES.

ASK YOUR
DEALER
FOR



These accumulators are thoroughly reliable and well constructed units, of which many thousands have been supplied for radio work. The ebonite cases are strong and fire-proof; non-corroding terminals are fitted.

We manufacture Wireless Batteries of all types including L.T. and H.T. Block Batteries, Sparta L.T. and H.T. Dry Batteries; Inert Cells, etc., etc.

Stocked by all Good Dealers.

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Get a FULLER'S
—you get the best.

"LIBERTY" SAFETY WANDER PLUG

passes sufficient current to supply circuit, but NOT enough to harm or destroy Valves, even if wrongly connected.

PRICE 2/6

ONE Plug only
required for

For 1000 mA current

For 1000 mA current
For 1000 mA current

No
bulbs or
fuses to
renew.

A permanent safeguard against untimely Valve destruction.

To be had of all up-to-date Wireless Dealers. If out of Stock send post direct to makers and Plug will be sent post free.

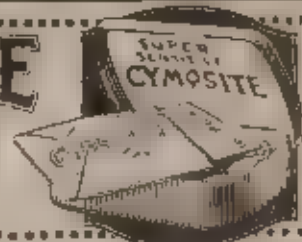
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RADI-ARC ELECTRICAL CO., LTD.,
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It is very easy to find a Cymosite. It is the only one of its kind in the world. It is the only one of its kind in the world. It is the only one of its kind in the world.

2/6



Exide ACCUMULATORS, ETC. NEW AND GUARANTEED.

20 Amp. 2-volt	8/10 4-Volt	17/6 6-Volt	£1 6 6
40 " "	11/3	£1 2 0	£1 13 6
60 " "	13/6	£1 7 0	£2 0 6
80 " "	16/0	£1 12 0	£2 8 0
100 " "	18/6	£1 17 0	£2 15 6

Carriage 1/- extra. Discount to Trade. Cash with order. Goods not return. Look out for our new Crystal Set. Factors and Trade supplied.

LOWKE & SONS, LTD., Exide Agents, NORTHAMPTON

Sheffield Programme.

6FL 301 M.

Week Beginning Sunday, February 8th.

SUNDAY, February 8th.3.0-5.30. } Programmes S.B. from London
8.0-10.30. }MONDAY, February 9th, to THURSDAY,
February 12th, and SATURDAY, February 14th.

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FRIDAY, February 13th.

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Opera Night.

J. H. J. PRESOTT (Contralto).

JOSEPH L. R. N. (Tenor).

MABEL NORTON (Soprano).

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Reduction in Valve Prices

OWING to an increased demand and greatly extended manufacturing facilities, we have decided to reduce the price of the

"COSMOS" D.E.11

DULL EMITTER VALVE

FROM 25/- TO

..... **21/-**

This valve as is now well known, works off a single Dry Battery. It takes 0.25 amp. at 1.1 volt, and is the best Dull Emitter Valve for Loud Speaker work.

The new

"COSMOS" A.45

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WILL BE SOLD AT

..... **11/-**

This is a highly efficient valve for all reception purposes being equally suitable for detection, H.F. and L.F. amplification. It takes 0.7 amp. at 4.5 volts.

The new

"COSMOS" S.P.18

SHORT PATH

DULL EMITTER VALVE

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..... **18/-**

This is an entirely new departure in valve design. The unique construction of the electrodes enables the distance between them to be greatly reduced, so that Electrons only traverse a very SHORT PATH. This gives:

Greater Amplification,
Exceptionally good rectification,
Greater output without distortion.

EXCELLENT FOR "LAST STAGE" AMPLIFICATION

For "Crystal Clear" Reception use

COSMOS

VALVES

Advt. of Metro-Vick Supplies, Ltd., London



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The unusual constructive theory of Brandes *Matched Tone* Headphones secures a tremendous improvement in accurateness, sensitivity and volume. A simple explanation is this: strike the same note at the same instant on any two musical instruments of the same kind. It's a hundred chances to one against both notes being of the same strength and pitch. Consequently, it jars, and you would much rather hear one alone. If both notes were exactly similar, it would be pleasing, and you would have greater volume and clarity. Brandes, with both receivers matched to exactly the same degree, achieve this desired end. *Ask your Dealer for Brandes.*



every week these advertisements will show an added advantage in the construction of Brandes Headphones.

The headphones are made of a material which is not only soft but also the wire is fully covered so that the ear is not hurt. The earpiece is so shaped that it fits the ear perfectly without the fear of injuring the ear. They mean comfort without hard and straining construction.

British Manufacture
(B.C.C. Limited)



The only way to know if a Brandes product is the best is to try it. The only way to know if a Brandes product is the best is to try it. The only way to know if a Brandes product is the best is to try it. 42/-

Brandes

The Name to know in Radio

25/-

Superior "Matched Tone" Headphones

TRADE MARK

Swansea Programme.

SSK 485 M.

Week Beginning Sunday, February 8th.

SUNDAY, February 8th.

3.0-5.30. } Programmes S.B. from London

MONDAY, February 9th.

3.0-4.0.—The Castle Cinema Orchestra, relayed from the Castle Cinema, Musical Director: Jack Arnold.

4.0-5.15.—WOMEN'S TOPICS

5.0-6.0.—CHILDREN'S CORNER

Programmes S.B. from London

TUESDAY, February 10th

3.0-4.0.—Gramophone Records.

Programmes S.B. from London

WEDNESDAY, February 11th

3.0-4.0.—WOMEN'S TOPICS

4.0-5.0.—CHILDREN'S CORNER

5.0-6.0.—Programmes S.B. from Cardiff

THURSDAY, February 12th.

3.0-4.0.—The Castle Cinema Orchestra

4.0-5.0.—CHILDREN'S CORNER

5.0-6.0.—Programmes S.B. from London

FRIDAY, February 13th.

3.0-4.0.—W. H. Hodge's Trio

4.0-5.0.—WOMEN'S TOPICS

5.0-6.0.—CHILDREN'S CORNER

6.0-7.0.—WEATHER FORECAST AND NEWS

S.B. from London

G. A. ATKINSON S.B. from London.

Local News

MAY BURLEIGH (Soloist)

ARCHIE SIMMONS (Entertainer)

T. J. JONES Solo Pianist

THE NATIONAL OIL REFINERIES

ORCHESTRA

7.30—Overture, "Triumph of Right" Locall (1)

7.45—Overture, "Light Cavalry" Duppa

May Burleigh

"Our Little Home" Carter

"The Dreamy Steppes" G. H. Jones

"Big Lady Moon" Cateridge Taylor (1)

Orchestra

8.0—Suite, "Morse" R. H. Jones

Archie Simpson

"Macaula" Macmurtreigh (1)

"I Don't Want You When You're With Me" Hubens

"Leave a Lot of Time for Love" Gidcon (7)

Orchestra

"The Wren" Danmore

With Orchestral Accompaniment

May Burleigh

"Down in the Forest" London Ronald (5)

A. F. Jones Liddle (1)

"The Glory of the Sea" Sanderson (1)

Orchestra

8.15—Overture, "Raymond" Thomas

T. D. Jones

8.45—"Sonata Pathétique," Op. 13, 1st Movement

Beethoven

Archie Simpson

"Pitch My Lonely Caravan at Night" Carter

"I Want Somebody" Gidcon (7)

Orchestra

9.0—Parol, "The Woo Margreger" Jones

May Burleigh

"Still As the Night" Bohm

"The Green Hides of Somerset" Carter

"Land of Long Ago" Ray

Orchestra

Selection, "Merrie England" Gidcon

9.15—Programme S.B. from London

9.30—Suite, "A K. for Cardross" B. Jones

Orchestra

"A. I. A. for Cardross" Gidcon (7)

"A. I. A. for Cardross" Gidcon

March, "A. I. A. for Cardross"

SATURDAY, February 14th.

3.0-4.0.—CHILDREN'S CORNER

4.0-5.0.—Programmes S.B. from Cardiff



EXPOSING THE PIG.

One is continually being warned against buying a pig in a poke, a maxim with which I agree so heartily myself, that at 20, Store Street W.C., I am exposing the animal for all to see. With the kind assistance of Messrs. Yeates Ltd. of that address, I am exhibiting at their Showrooms a full range of Fellows Wireless Apparatus, including Crystal and Valve Sets, Loud Speakers and Headphones.

You can pay us a visit there and find everything that could possibly interest the wireless enthusiast. You can also examine the apparatus as carefully and closely as you like; you can moreover hear it actually working. There is no pig in a poke here.

Any set or Loud Speaker that you wish to test will be demonstrated for you by a courteous staff of experts who will answer your questions and solve your difficulties.

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SUPER ONE VALVE SET

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£3 10 0

50 Set complete with Headphones, Loudspeaker, Fellows Loading Coil, or Arden or H.T. Unit, Aerial and Insulators.

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EP.5. 67

Friday's Programme.

P 1
B 40.
F A
D D
W O
G A
I P O
J A
J A
J A
J A

Phone Maroon
(My Home)
H. H. Hall
Kennedy Frankel
Orchestra.
Mandelstam
Austin (8)
Harty (1)
The Bantock (A)

Nottingham Programme.

(Continued from page 321.)

748. John Whitehorn.
Hungarian Folk Songs. Korby
Band
Excerpts, "Mourning Is a Empty Place"
and a Warm.
Broke a Leg. b Southern H
My Little Boy. c H. Warren
"Good Day! Said the Black Bird" Gosh
Band,
Flute and Clarinet Duo. "Morocco
Rag." J S. Warren
c s BARNES and MORRIS.)
Characteristic Intermezzo, "In a Mannerly
Garden."
S. W. I. W.
Southern Western.
T. A.
B. 30.
Burmesse Suite. "The Pagoda of Flowers"
Amy Woodford-Finden, I
H. R. Warren.
B. 45. "One Fine Day" Puccini
"The Laze with the Delicate Air" Arne
B. 55.
Clock and Tul Jar Bed Solo. "Le
on de St. Marc"
Laurie La Romelle { }
H. R. Warren. Three Blind Mice"
Adm. Zeller
D. 8. John Whitehorn.
"My Little Woman" Wagner
"A Little Girl"
The Little Irish Girl Lok
D. 18.
Third Act and Brim Chorus ("Lemon
Tree") Wagner
"A Little Girl"
A Lightning Switch Alford
I. R. Warren.
Forest" London Ronald (5)
Shepherd's Song"
Shepherd's Cradle Song" Somerville
Band.
Military Tattoo" Bogus
SATURDAY, February 14th

The Wonderful Difference



Voiced like
an Organ

*The Secret of the
Tone of an Organ*

The whole basis of music is one of vibrations and harmonics but the feature that makes or mars perfect music is the way in which the harmonics are produced from the vibrations. Given a **solid magnet structure** and a **correctly proportioned diaphragm** you can take it that your vibrations will be really good, but the resulting harmonics depend entirely upon the way you use those vibrations.

The great art of the organ craftsmen lay in their master knowledge of harmonics, and the secret of their greatest achievement was the voicing of the pipes.

THE RADIOSUN LOUDSPEAKER

is the only loudspeaker with the mouth of the sound chamber *voiced like an organ*. You can guess the immense difference this makes. Every vibration is reproduced from the vibrations of the diaphragm in perfect form giving real music throughout the range of wireless broadcasting.

The RadioSun Loudspeaker was designed by an organist and engineer, that is why it can give you the purest music. Remember it is voiced like an organ, and it is the only loudspeaker with this supreme feature of design.

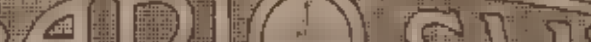
The entire magnet system is unique. Look out for further particulars of this wonderful loudspeaker in our advertising.

The Secret of the Tone
of the RADIOSUN

**PRICE**

£5 - 0 - 0.

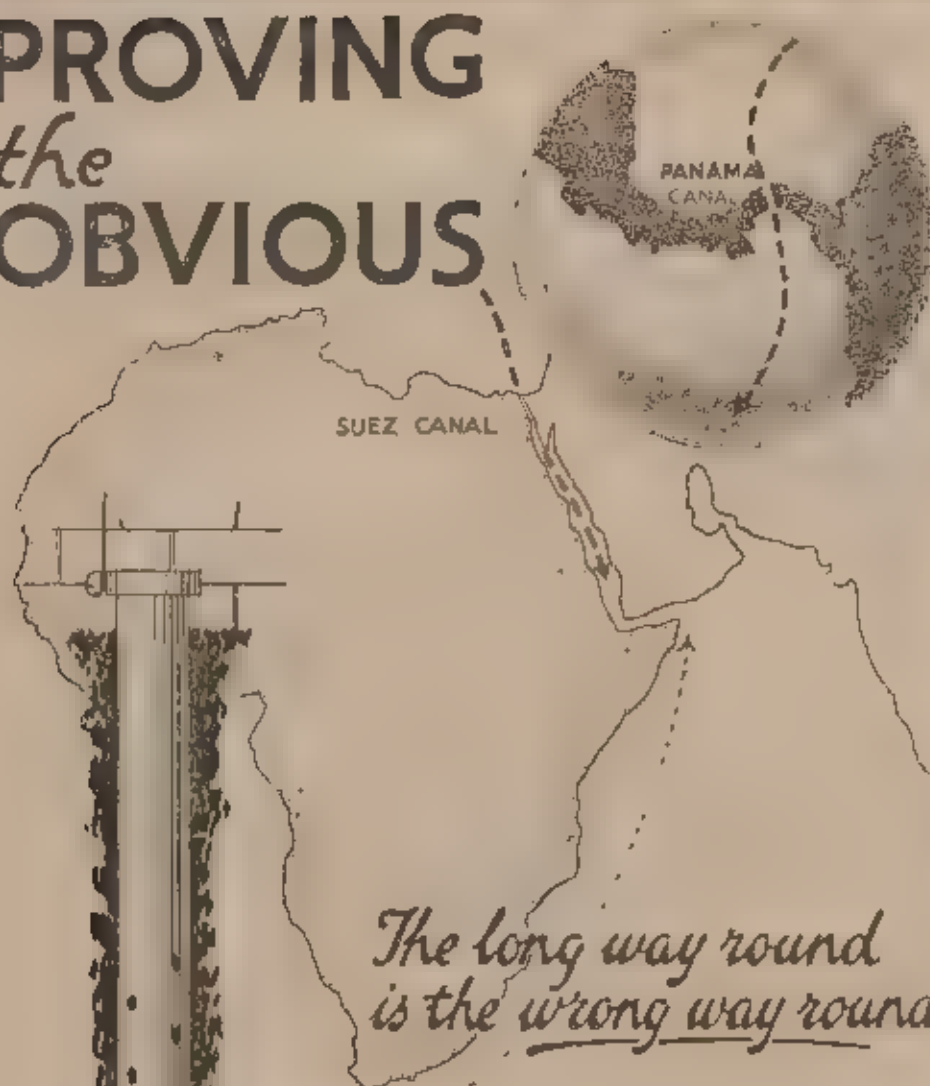
Write for booklet explaining the WONDERFUL DIFFERENCE free on application.



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LOUDSPEAKERS
VOICED LIKE AN ORGAN

AUTO SUNDRIES LTD.,
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PROVING *the* OBVIOUS



*The long way round
is the wrong way round*

It repeats itself.
The Suez Canal and the Panama Canal have proved this obvious truth for
CLIMAX RADIO EARTH is far better than the old-fashioned
earth with its long, ugly and inefficient wire trailing
followed by a bad joint on to a wandering pipe.
The point of the Climax Radio Earth allows it to be
It penetrates deeply into the ground ensuring
to the surrounding ground.
The success of the Climax Radio Earth has given rise to a
of doubtful efficiency. THE CLIMAX RADIO
on the Climax Radio Earth. The Climax Radio Earth may look much
the hall mark "Climax" on the cap it is most likely a
You cannot afford to take the risk. Refuse sub-
INSIST ON A CLIMAX RADIO EARTH. Identify the



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GET A CLIMAX COPPER EARTH.**

Any radio dealer can supply. If difficulties are met in
your way or substitutes offered you, please send your
5/- direct to us, and we will send you the genuine
CLIMAX Radio Earth by return post free.

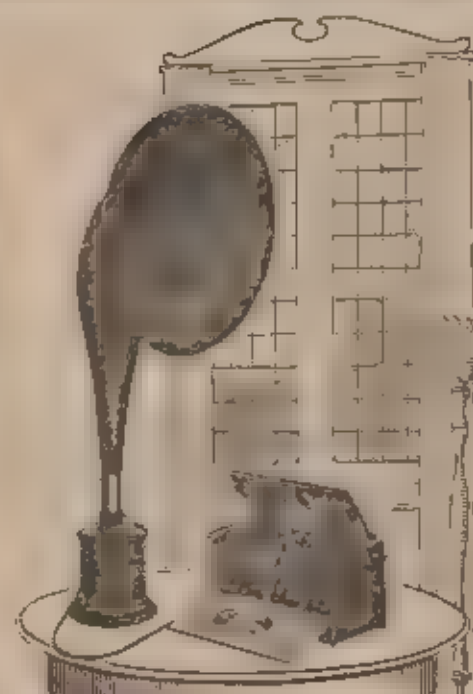
REFUSE SUBSTITUTES. INSIST ON SEEING THE NAME CLIMAX ON THE CAP

PRICE
5/-

IMMEDIATE
DELIVERY

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RADIO**

CLIMAX PATENTS, LTD.,
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The Ideal Equipment.

EXPERIMENT is an ally but
without it nothing worth while is achieved
The Loud Speaker with its
Amplifier was the subject of
infinite experiment and research
before it was placed upon the
market over two years ago, and
so perfect was the finished product
that Western Electric Loud
Speaking Equipment is fully
recognized as world standard
there is nothing to approach it
for volume and perfect purity
of tone.

If you are considering the purchase
of Loud Speakers or Amplifiers
of an unknown quality take heed
of the recommendation of the
finest judges in the country and
insist upon Western Electric.

Made by the Makers of over half
the World's Telephones.

Western Electric Company Limited.

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Branches: Birmingham, Leeds, Manchester,
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"Distance lends enchantment to the—"
programme.

There is an inexplicable attraction about those programmes that are just beyond the range of your present set—a certain excitement in "getting" distant stations. If you live 20 miles or more from your local broadcasting station the three-valve Nelson Etesaphone will enable you to cut it out and choose whatever station takes your fancy. The Etesaphone Catalogue 522/7 describes sets at all prices, from the simple crystal to the powerful 4-valve model. Send for your free copy to-day—or ask your Wireless Dealer to demonstrate.



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Wholesale only

FALK, STADELMANN & CO., LTD.,
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THE "NELSON"
3-VALVE SET.

Range 75 miles with Loud
Speaker, 250 miles with Head-
phones. Handsome polished
Walnut Case, with Roll Switcher.

Price complete, except valves,
£27 10 0

*Listeners-in
demand a perfect
LOUD SPEAKER
—and they get it in the*

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2,000 ohms. STANDARD ES
JUNIOR SS. TOM-TIT 30.
IMMEDIATE DELIVERY.

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ACTON VILE, LONDON W.3.

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SOLDER ALUMINIUM
The "CHASEWAY."

"CHASEWAY" ALUMINSOL is a distinct advance on all previous attempts to solder aluminium. Useful alike to wireless constructors and metal workers, it is a decided boon for uniting

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SOLDERED JOINT.
— Brass.
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— Any other Material.

Can be used with Blow Pipe or a hot iron. For repairing Motor Crank Cases and parts and a hundred other uses. Sample stick with instructions. No Flux required.

1/-

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Makers of the Famous HOME BATTERY CHARGERS
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LBS**

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search for
'Sensitive Spots'**

Look for the
"Hand and
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See this distinctive Red, Gold
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The "Hand-and-Crystal" ends your search. It signifies to you a Crystal that has not a single insensitive point; apply the contact even blindfolded, and you get a "sensitive spot" every time.

SYLVEREX costs you 2/-; a little more than most Crystals, but worth it. It costs more to produce—to select, test and re-test. And so carefully and thoroughly is every piece tried out on actual Broadcast reception that you have with SYLVEREX a definite guarantee of silver-toned, full and clear rectification. And you cannot beat SYLVEREX for DISTANT reception.

Take a piece of SYLVEREX home with you to-night; and then tell your friends about it.

Sylverex
RADIO CRYSTAL
The Silver-Toned Silver Alloy

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Produced by SYLVEX, Ltd. (Dept. A),
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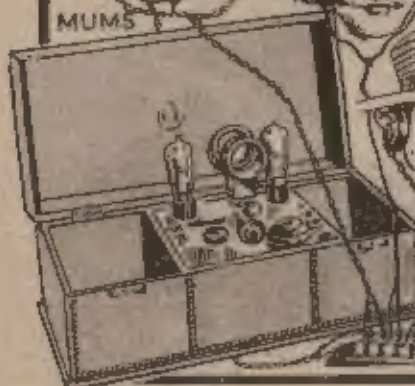
C.W.

Somebody pushed me— they did! they did!!

DADS



MUMS



VERA



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in fact, the whole family pushed me into buying a
C.A.C. DUO-VALVE RECEIVER

and I don't regret it a little bit—the results are marvellous.

Besides, the instrument only costs a fiveer, complete in a handsome dark oak Jacobean Cabinet, and the components inside are the best it is possible to obtain.

Even after I bought all the accessories—two dull emitter valves, high tension battery, accumulator, a pair of 'phones, and paid the Marconi Royalties, the whole installation cost me under £11, and Jones himself admits I get JOEY better results than he does on his thirty guinea set. I am recommending it to all my friends.

TAKE MY TEE AND WRITE FOR FULL PARTICULARS.

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CITY ACCUMULATOR Co.
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And at Leeds and Birmingham.
Agents Everywhere.

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The Crystal with Valve Power



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THE WORLD'S GREATEST RADIO CRYSTAL

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"For the past three weeks a few friends and I have been trying to find the best crystal. We have tried no fewer than 19 different makes and are unanimously agreed that 'Neutron' is the best of the lot."

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If you wish to make Wireless Sets which are **UNBEATABLE IN PRICE, QUALITY, or EFFICIENCY**, this is the book you must have.

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Satisfaction guaranteed or money returned.

It explains all about Wireless in plain everyday language, and tells you exactly what each Set costs to make.

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WHEN your lightning-arrestor device puts the aerial lead and the earth in a straight line, your aerial is a definite protection to your house.

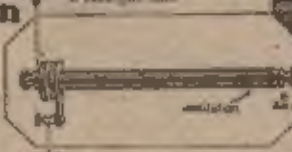
A house with an aerial and a Pressland Safety Lead-in is safe from a house without an aerial.

The Pressland Safety Lead-in

Let a self-insulated, flame-resisting, and protected for an external standard wire. It is specifically adapted to form a permanent connection between aerial and house.

From your Wireless Dealer,
2 inch, 4 inch, 5 1/2 inch, 3/4 inch, 1 1/2 inch, 2 inch, 2 1/2 inch.

It is simple just to connect aerial and earth terminals on your set, or to adopt any device that does not connect aerial to earth outside the house. Lightning will not follow angles; it takes a straight line.



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We repair, by our patent process (for which we have National Physical Laboratory's report of efficiency), all standard types of valves

Up to 3 valves cheapest method is to send by letter post.

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GUARANTEE at least equal efficiency to new valves.
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ELECTRON WIRE
THE PERFECT AERIAL



THE
CHEAPEST
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ABOLISH ALL
UNSIGHTLY
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ABSOLUTELY
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The simplicity of Electron Wire has astounded all Radio Experts; the troublesome Insulators are absolutely unnecessary. Suspend this Wire where you will, lead-in and perfect reception is the result.

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The **CHEAPEST AERIAL** **1/8**
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lengths laid double.
300ft.
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Two 350 feet
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*Now fades the glimmering landscape on the sight
And all the air a solemn stillness holds*
GRAVE BLEND

NOW that the Sterling "Primax" Loud Speaker has taken its place as the true master of radio reproduction, how great the wonder and delight radio evenings hold! For the "Primax" is truly supreme. It reproduces music, song and speech with a purity and volume so perfect that the keenest critics of music praise its powers. The pleated diaphragm gives even distribution of sound. The simplicity and perfection of the electro-magnetic mechanism ensures the complete absence of any harshness. The "Primax" is an ornament to any room—a joy to all musicians.

Radio dealers will willingly demonstrate its distinctive qualities before purchase, and any test is cordially welcomed.

The Sterling "Primax" Hornless Loud Speaker has a pleated diaphragm mounted in a frame and supported on a graceful stand. The whole instrument is bronzed finish. It is connected to the receiver in exactly the same way as an ordinary loud speaker. Complete with 12 ft. of flexible cord. **PRICE £7:15:0** (2,000 ohms resistance.)

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Hornless Loud Speaker (Bronzed Finish)

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Works: DAGENHAM, ESSEX